

Will Receive - Vol 3

ATHLETIC JOURNAL

Vol. XXII, No. 10

June, 1948



Wer Alters the Physical
Education Program at
New Trier High School?

W. L. Childs

Intensified Physical
Fitness Programs

The Shifting Defense
Harry Geltz

In Two Parts
Part One



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The ATHLETIC JOURNAL

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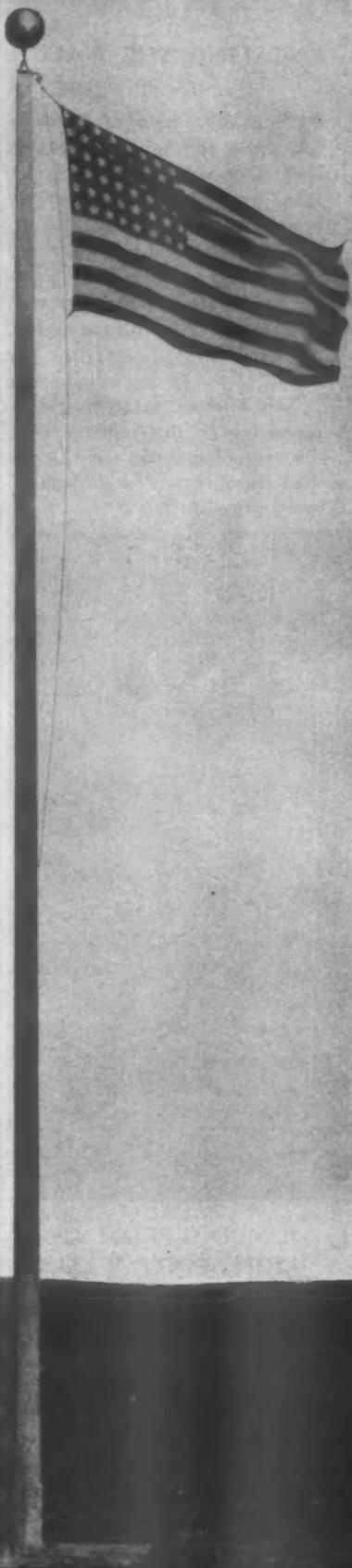
What has been done must be further increased for the boys in your squads today will be boys hammering at the gates of Tokio tomorrow.

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What the Schools Are Doing

War Alters the Physical Education Program at New Trier High School

By W. L. Childs

Head of the Physical Education Department
New Trier Township High School, Winnetka,
Illinois

FOR years and years we have been asking for much more time for physical education, but, not getting it, like most schools we have tried to carry on a well-balanced, but necessarily very inadequate, physical education program. Our emphasis has been on sports partly because we have realized that, if boys get interested in sports, there is a good chance that they will spend enough time in sports outside of school to get the really big values which accrue from them.

We have realized all the time that, from the standpoint of physical fitness and the development of the strength, endurance, agility, and courage so much needed now in the war effort, another type of program would have been much better for boys who take no large part in the after-school sport program.

When the Japs hit Pearl Harbor and we were suddenly faced with a tremendous need for these qualities in every boy, we drastically changed our program to the best one we could devise to produce them. We could not at the time (though we hope to do so later) do the most important thing, which was to increase the time allotment for physical training, but we tried to do the next best thing—to make every minute we had count 100 per cent in the kind of training we thought would be most valuable to the boys in a war situation.

We stopped teaching game skills and techniques. We tried to develop a system where every boy in the gymnasium classes works all the time—no waiting for one's turn.

This vigorous program consisted of tough setting-up exercises, running, jumping, hurdling, vaulting, balancing, tumbling, rope climbing, scrambling on all fours, wall scaling, jumping off the walls, weight lifting and carrying, learning to fall without getting hurt, combat exercises such as hand wrestling, rooster fighting, etc., tug of war, wrestling, boxing, swimming, and using football blocking dummies.

In order to make it possible for every one in our large classes to work at the same time, we had to add some new equipment—climbing ropes and poles, stall bars, wrestling mats, and boxing gloves. We de-

vised an indoor obstacle event which we ran each class through every day. Three bucks with two four by sixes bolted on top made a good, easily moved, barricade or fence 56 feet long that ten boys could vault at a time. Our gymnasium walls were just the right height for wall scaling. We also jumped off these walls, and jumped off doing the parachute roll.

We had a chinning bar installed along one wall the entire length of the gymnasium so that an entire class could do pull-ups at the same time. This was part of our daily setting-up drill. In this daily drill the entire class did the duck walk across the floor (90 feet), returned running on all fours, went back again doing the frog jump. This three times across was run every day as a race. This was followed by another race four times across, the first two as a piggy back race, the last two as a fireman's carry race, horses and riders changing places each time across.

Using the same partners, we then had combat exercises, hand wrestling, rooster fights, etc. We ran for three minutes in every gymnasium class.

We gave 4,000 simple (can or can't) tests and from the results, combined with our knowledge of the boys, divided each class into four groups. One group of boys who could not climb, vault, scale walls or make a minimum speed in running were put in a group where running, muscle building and stall-bar exercises were stressed to bring them up to par.

The others who could, after a fashion, do these things were separated into three groups according to ability. For the setting-up exercises and the obstacle event, these three groups were kept together, but were separated for such activities as boxing, wrestling and tumbling. Any boy could be changed at any time from one group to another. This not only served as a motivating factor, but kept boys of like abilities together.

Boys who could arrange to get into extra classes were allowed and urged to do so. Many did.

Just before the spring recess we gave a gigantic demonstration of the work we had been doing. We called it a "Gymcarnival." We charged admission and raised \$700.00 which was used to help in the war effort.

The change in program, the emphasis on physical fitness, the demonstration, and the raising of funds for patriotic purposes have increased the interest among the boys and have given them a sense of satisfaction from the feeling that they are having a part in the winning of the war.

We have made no change in our after-



SCALING THE WALL

(Left)

THE illustration at the left shows the boys scaling the wall. Our wall ninety feet long made it possible to take care of a large class at one time. Scaling walls, scrambling over barricades, surmounting obstacles are great for developing arm, shoulder and body muscles. Good training for peace or war!

New Trier instructors were surprised to find that injuries from this type of program were fewer than those incurred through a sports program.

"V" FORMATION AT GYMCARNIVAL

THE illustration on the front cover of this issue was taken at the opening of our Gymcarnival which, as explained in my article, marked the close of our first physical fitness program. The boys, hundreds of them, ran on to the gymnasium floor from all sides, or came down off the walls to take their places in the "V" formation facing the stage. The yell leaders of the various classes gave their class yells and all joined in the school yell. Then followed the school song, the national anthem and the pledge of allegiance. A very impressive opening ceremony!



JUMPING FROM AN EIGHT-FOOT WALL

(Above)

TO accustom the boys to jumping, we started them out from our four-foot stage and from the barricade which could be raised to various heights. The eight-foot wall was the final accomplishment. Jumping, with and without the parachute roll, develops courage and trains boys to fall without getting hurt.

BALANCING A DEVELOPER OF CO-ORDINATION

THE barricade (fifty-six feet long) which we had made of two four by sixes bolted on top of three bucks, came in for various uses. It furnished the necessary obstacle in races; it was used in accustoming the jumpers to various heights before they attempted the eight-foot wall. It furnished the practice in balancing where co-ordination is developed, so valuable in many of the ordinary and unusual emergencies of life.



MASS BOXING AND WRESTLING

IN the boxing and wrestling events we were able to answer the argument against their use for large classes, for we had plenty of equipment and there were no long waits. With our thirty-two pairs of boxing gloves, we kept a fairly good size group at work. Boxing develops courage, fighting spirit, co-ordination, ability to think quickly, to decide and act instantly. In mass wrestling we have the best all-around body developer.



FIREMAN'S CARRY

(Third Illustration, Page 6)

ABILITY to lift and carry heavy weights is important on the battle front, in many occupations, and in many emergencies of life. These boys are developing the strength for, and the techniques of, lifting and carrying while having fun in a carry race. The entire class did the duck walk across the floor, returning on all fours, back again doing the frog jump. This was followed by two times across as a piggy back race and two as a fireman's carry race, horses and riders changing places each time across. Who can question the amount of conditioning derived from these races? Who can doubt the value of the carry race on the battle front?

school sport-program except to replace softball and touch football with soccer, which is a much better conditioner.

With the spring weather we have now taken the classes outdoors. We start each class with a half-mile run which has to be done under three minutes. For most of the period we play soccer football.

We are considerably intrigued with the obstacle event idea. We now have no outside apparatus to use for the development of arm, shoulder, and body muscles, but we are trying to work out something of the kind that we can build on our athletic field without interfering with the use of the field for the usual athletic contests.

We shall undoubtedly return to the sport program after the war but we feel certain that there are many things in the new program that we shall want to continue and we shall hope, urge, and work for enough additional time allotted to physical education to make both types of program possible.

A Program of Health and Physical Education for the Larger High Schools During Our Present Emergency

By A. E. Stoddard

Supervisor of Athletics and Physical Education, Kalamazoo, Michigan

DURING the past few months, or since our country has been on the "alert" due to the world situation, we have heard much regarding the failure of our schools, and particularly our departments of physical education, to develop our boys to the point where they might be inducted into the service physically fit. Much might be said along this line, but it is enough to say that the conditions or defects for which our young men are rejected are such items as defective eyes, teeth, hearing, hernia, lung conditions and malnutrition. These are conditions which we can change only indirectly.

Because of the very grave situation in which we find ourselves, both individually and as a nation, our schools and our physical education programs must change, perhaps their viewpoint and emphasis, toward those activities and efforts which will help in preparing our boys and girls for entry into the several branches of our country's service.

The following outline is submitted with the above thought in mind.

Time Allotment

There should be at least one hour per day given for the physical education program. It may be argued that it is not possible to give this amount of time for phys-

ical education work out of a day already full and running over with a multitude of activities.

The only answer I know to this is that we must re-study the relative values or importance, in the light of today, of those activities which are carried on in our schools and then act accordingly. In view of the fact, at the present time at least, that our national needs call for men and women in the best of physical condition, we may well place the greatest emphasis on the physical condition of our young people. It may be of more importance now to teach history, English, mathematics, etc., four hours per week only, and give one of the five hours usually devoted to these and other subjects over to physical education.

We cannot develop physical fitness of muscle, bones, vital organs, etc., other than by using them, and one or two hours per week are certainly far too short a time for this important task.

At a certain time in the history of Greece, her young men went to the gymnasiums and took part in physical activities until high noon. The afternoons were devoted to study. One-half of each day was given to physical education.

Five days per week and one hour per day during a pupil's school life, certainly ought to be a minimum standard of time allotment.

Physical Activity Program

This will depend, of course, upon the facilities and personnel at a given school. A physical education program will have to be adapted to such conditions, or the conditions changed to meet the desired program.

Following is a day's order of activities, counting the period as of one hour:

1. *Changing to gymnasium clothing* (10 minutes):

2. *Calisthenics* (15 minutes): Calisthenics should be done fast and continuously. This may be done by the leader setting the next exercise while the class is completing the present one, or by having the class learn a sequence of exercises and going straight through the series. Such exercises should be so planned that all the muscles of the body get a workout. Such exercises must be fast enough to increase circulation, and strenuous or hard enough to give resistance to the muscles. Music with calisthenics adds much to the interest.

3. *Military Facings* (5 minutes): In most cases, space does not allow of much in the way of military tactics. It is possible, also, that military tactics are best given in the army set-up and by a unified army system. However, the positions and movements of right face, left face, about face, marking time, etc., may be given a class which is assembled, outdoors or indoors. These commands and movements,

well executed, develop in a person the ability to receive and execute commands readily and willingly. The attitude of one in receiving and executing commands will play a big part in fitting into any army activity. (Refer to Military Manual.)

4. *Military Marching* (5 minutes): Where space allows, some of the simple military tactics may be used, such as column r. or column l, etc. This may be combined as part of the work in military facings or positions. (Refer to Military Manual.)

5. *Athletics*: There should be a well-rounded program of athletics in every high school. At the top of such a program should be the interscholastic competition. This should conform in all cases to our state regulations, and must also conform to the possibilities of a local school.

The list of such sports participated in should cover football (either 11- or 6-men teams), cross country, swimming, basketball, tennis, golf, track, baseball, and any others for which a school might be equipped. We should keep in mind that we are going to have as many boys as possible participate in these sports.

It has been said by army men that boys who have participated in competitive sports, adjust themselves to army life much more readily than boys who have not had such an experience.

With as good a sports program as we can have, there will be a great many boys not interested in sports or for whom there is neither sufficient equipment, space, or personnel. For these boys there should be an intramural program of sports worked out, whereby every boy in school, insofar as they can be interested, will be in some group or on some team. These teams or groups will then play a series of games, which the school is equipped to carry on. They may be organized on the home-room basis; gymnasium classes; seniors, juniors, etc.; or as independent teams. "Every boy in school on some team" might be a good motto, an objective to strive for.

6. *Games—Apparatus, Testing, etc.* (15 minutes): During this part of the hour such activities as rope climbing, track events as shot put, sprints, etc., relay races as obstacle relays, barricade relays, and wall-scaling relays, may be used. We should keep in mind, during the games and apparatus work, that we want to use the big muscles through the age-old activities of running, jumping, climbing, throwing. Through these fundamental activities our forefathers came from jungle life to the present.

7. *Showers and Dressing* (10 minutes): Regarding the above day's order, the events and time allotted to each activity may be shifted to meet the needs or the desires of an individual situation.

There may be days when we will want to be outdoors and spend the entire hour at some one game as softball, touch football. (Continued on page 48)

Intensified Physical Fitness Programs

Indiana University

A COMPULSORY daily physical fitness program for all undergraduate men students at Indiana University is designed to fit students for war-time service and, at the same time, to improve the university's student health standards. It is a part of the University's War Service Plan inaugurated at the beginning of the second semester, 1941-42.

Physical Fitness in the War-Service Plan

Immediately after the meeting early in January, 1942 at Baltimore of the National Conference of College and University Presidents on Higher Education and the War, Indiana University's Administrative Council was enlarged to include representation from all faculty and administrative areas. The faculty and board of trustees accepted unanimously on January 16, 1942 the resultant recommendations called the War Service Plan formulated by the council.

The plan has two purposes. First, it provides ways and means for accelerating the progress of students to meet the nation's demand for trained men and women and to permit students to receive the greatest possible amount of training prior to induction into military service or to joining in the total war effort. Second, the plan makes all adjustments of curricula consistent with maintenance of educational standards and use of available resources.

The plan has three characteristics. It permits maximum flexibility and acceleration. It adequately meets the new national needs. It is adaptable to individual student situations.

One of the acknowledged features of the plan is that all men students receive, as a part of the university's work, important physical and mental fitness education.

In compliance with urgent requests from naval and military authorities and in harmony with resolutions passed by representatives of the Association of American Colleges and by the presidents representing approximately eight hundred American universities and colleges at Baltimore, Indiana University shall require, beginning January 24, 1942, that every undergraduate man student, unless excused by the director of health service, pursue a course in physical education each semester. During the second semester of 1942, this program shall be required of all men who shall have reached the age of twenty

on or before May 8 and shall be an elective for all others. The outstanding emphasis in this course shall be the physical and mental fitness of Indiana University men students. The program for all students, and especially for those with physical defects who have been, or who may be, rejected as unfit for military service, shall be developed by the department of physical education for men with the collaboration of the bureau of health service. The classes shall meet for one period on alternate days of a six-day week. In addition, students enrolled will be required to participate each week in the intramural and recreational sports program for two periods of approximately two hours each. One credit hour per semester shall be granted for each semester's work, if satisfactorily passed. Such credit hours shall be in addition to present requirements for graduation.

Administrative Relationships

The general administrative responsibility for the entire program rests with the director of the department of physical education for men who is directly responsible to the president of the university. Organization and general supervision of the program are delegated to a staff member who is guided in policies and procedures formulated by the director, the departmental staff which meets on call, and by a departmental program committee for physical fitness composed of six members which meets bi-weekly.

Advisory and Co-ordinating Relationships

In addition to the line and staff administrative organization there is an advisory and co-ordinating committee on physical fitness appointed by the president. The personnel of this committee is: Director of Physical Welfare Training Department, Director of Athletics and Department of Physical Education for Men, Commandant of the Reserve Officers' Training Corps, Track and Cross Country Coach, Director of the University Health Service, Director of Department of Home Economics, Director of the Department of Physical Education for Women, and Organizer and Supervisor of the Required Physical Fitness Program for Men. The first four listed members of this committee are also members of the Administrative War Council.

The major functions and responsibilities of this committee are:

1. To consider as an interested and representative group, problems of the various phases of the physical fitness program presented by the respective administrators for reaction and advice;

2. To recommend to the president and the administrative war council any approved proposals submitted by the administrators of the various phases of the physical fitness program;

3. To react on proposals concerning the physical fitness program presented by any members of the faculty or student body; to report disapproved proposals and to make recommendations on approved proposals to the president and the administrative war council;

4. To accept as a responsibility and privilege the origination of recommendations, which if voted favorably by the committee, are to be submitted to the president and the administrative war council;

5. To exercise no direct administrative control (as a committee) over the administrators of the various phases of the physical fitness program nor any of the instructors engaged in the program; and

6. To be guided by the fact that the direct line of authority for control of the physical fitness program emanates from the board of trustees through the president and his representatives to the respective administrators of the women's and men's departments of physical education.

A Student Emergency War Council appointed by the president has as one of its functions promoting enthusiasm for the new health program.

Health Classification of Men Students

All men students are classified according to the results of a thorough medical examination into one of four groups on an activity card on which are also listed with the physician's remarks the activities in which they may participate. These examinations are completed before enrollment in classes. The four classifications are: 1. Unrestricted (Placed in general classes); 2. Slightly restricted (Placed in five hours of adapted and restricted activity); 3. Restricted (Placed in three hours of adapted and restricted activity); 4. Exempt (Tentatively arranged to have requirement satisfied by some related health courses).

Whenever measured improvement in Groups 2 and 3 above occur or when the University Health Service changes the health rating to unrestricted, the students

are transferred into the general classes. Likewise, transfers for health reasons can always be made to the adapted and restricted classes.

The classification of the 1504 men students, 20 years old or older, taking the requirement the initial semester follows:

	No. of Students	Per Cent
1. Unrestricted	1367	90.89
2. Slightly restricted	44	2.92
3. Restricted	52	3.46
4. Exempted (Beginning of semester)	41	2.73
Total	1504	100.

Few students were exempted for other than health reasons. Fifty students withdrew during the semester. Most of these withdrawals were for war service, for positions and for special reasons other than health. Thirty-seven students were exempted during the semester mostly on the basis of their health records. Only two of these were marriage exemptions.

There was a total of 1504 classified undergraduate male students 20 years of age or above, 1367 or 90.89 per cent taking the general requirement and 96 or 6.38 per cent enrolled in adapted and restricted courses. No doubt with the recently lowered physical standards for the selective service a very high proportion of the 1367 students might have passed the physical examinations for military service.

The Aim and Objectives

The aim of the physical fitness program is to develop and recreate through total body activities the physically, mentally, and socially integrated, fit, and effective individual.

This end is definitely approached through the achievement of the following more specific and attainable objectives: 1. *Physical and organic growth and development* evidenced by adequate endurance and muscular strength; 2. *Improvement of social traits and qualities* such as group co-operation, courage, and self-control; 3. *Psychological development* evidenced by nervous stamina and will-power; 4. *Development of recreational skills and knowledges* effective in the maintenance of good mental hygiene and in the worthy use of leisure time; and 5. *Development of safety skills and knowledges* for protection from injury of self and others on land or water in normal or emergent times.

The Activity Program

To reach the stated aim and objectives, a vigorous and varied daily program (five regularly scheduled classes) of physical activities of total-body type is organized and administered.

An enormous student load due to the

emergency conditions necessitated organizing and scheduling the several phases of the program to make maximum use of the meagre official staff and facilities.

The program consists of two distinct phases, developmental and recreational. Three hours a week are devoted to developmental activity which emphasizes body conditioning exercises and progressive walking and running. This phase also includes combatives, strength and endurance events, self-testing (stunts and tumbling), vigorous mass games, selected relays and various forms of miscellaneous physical activities such as Red Cross methods of transporting injured people and the simpler and unhazardous forms of Judo (modern Jiu-jitsu). All of these provide variety and help motivate the developmental lessons.

Two hours a week are devoted to recreational activities. One-half the student's time during the semester is divided between swimming and wrestling while the remainder is given over to games of an athletic and highly organized type.

Of the two phases of the program the developmental adheres more closely to the physical fitness programs of the army, navy, marine corps, coast guard and the royal air force. The recreational program on the whole is less vigorous than the developmental.

The Developmental Phase

Organization of the Developmental Program: Developmental sections are scheduled on Monday, Wednesday, and Friday, and on Tuesday, Thursday, and Saturday over a ten-hour day beginning at 7:00 A.M. To aid progress in physical fitness, the developmental classes have been divided into beginning and advanced sections since the end of the initial semester of the required program.

The Developmental Activities: Body Conditioning Exercises—The body conditioning exercises are rather set drills for the beginning of the semester. Gradually new exercises are added or substituted and by the middle of the semester, plenty of variety is afforded. Arms, trunk, legs, and abdomen are exercised vigorously each lesson. These exercises are undergoing constant observation and revision to secure those that bring maximum results.

During the first semester of the program the body conditioning exercises were centered around two groups of exercises supplemented by additional ones to afford variety and give additional emphasis to certain large muscle groups. The names of the exercises were selected so as to motivate and aid memory. The Tunney Twelve, an adaptation of Gene Tunney's navy exercises, were called: Spread Eagle, Toe Tapper, Trunk Circling, Abdominal Suction, Resistance Stretch, See-Saw, Chest Puller, Wig-Wag, Reaper, Belly Massage, High Running,

and Deep Breather (Chest Control).

The Indiana University decathlon drill was also formulated as a series of twelve progressive body conditioning exercises designed to exercise all large muscle groups while the class was in mass formation. Some of the exercises were so designed to substitute in mass, supervised drill for exercise ordinarily requiring special equipment and done in small groups. Examples of supplementary exercises added from time to time are: Piston, Scramble, Rhythm Hop, Filipino Squat, Compression, Side Squatter, Body T, Spreading Lunge, Double, Leg Lowering, and Tension Stretcher.

Progressive Walking and Running—Rhythmic running in place, forward, backward, sideward, and turning while running to the right or left, given with varied knee lift and in varied and quickly changed tempo is used for warming-up purposes. Light sparring, emphasizing footwork is sometimes used. Each period, except in swimming, is ended with laps around the one-seventh mile fieldhouse track, the number depending upon the vigoroussness of the lesson but seldom being less than three.

Hikes of progressively greater distances within a constant period of time (50 minutes) are used. Definite hikes over varied routes and rough and rolling terrain are diagrammed with total mileages and maximum times of 1.9 (36 minutes), 2.55 (45 minutes), and 3.55 (50 minutes, alternate walking and running). Each hike is repeated in faster times before going to the next hike. All hikes have from five to seven measured mileage points which make it easy to adapt the length of the hike to available class time. The longest hike is also recommended for recreational purposes. In addition, the stadium track is used for the 2-mile walk for speed and the quarter-mile run for which national achievement norms exist.

Combatives—Personal contact activities are divided into three kinds: dual, team or group, and individual.

Dual contests are: Indian Leg Wrestle, Back-to-Back Push, Linked Finger Struggle, Rope Tug-of-War, Back-to-Back Tug, One-Armed Wrestle (Hand Wrestle), Elbow Wrestle, One-man Pull Over Line, One-man Push Over Line, Cock Fight, Drake Fight, Rooster Fight, and Hit Balance.

Team contests are: Rope Tug-of-War, and Back-to-Back Push.

Stick-Gun activities are used in which two men are matched according to strength and size. These are of two types, dual and individual.

The dual type are: Stick Wrestle, Stick Pick-Up, Twist Stick Wrestling, Full Stick Wrestling, Stick Possession, Squat Stick Jerk, and Back-to-Back Stick Pullaway.

The individual type are: Jump the Stick (forward and backward) Under the

Stick, Through the Stick (3 ways), Backward Bend, and Stick Layout.

Object and contestant combatives using a piece of paper as the object are (individual in type): Two-Hand Dip, One-Hand Dip, Body Reach Pick-Up, Knee Swoop (Fish Hawk Dive), Tip Up Pick Up, Corkscrew, and Straight Back Dip.

Strength and Endurance Events and Exercises—These are classified as follows:

Scorable Mass Events: Push-Ups, Sit-Ups, Squat-Front Support-Squat-Stand (Burpee Test), and Deep Knee Bends.

Non-Scorable Mass Exercises: Dog Run, Duck Walk, Leg Lift (from floor), Side Support and Leg Lift, and Wheel Barrow.

Scorable Individual Events: Jump and Reach (Vertical Jump), Pull-Ups (Chins), Dip (Parallel Bar), Standing Broad Jump, Standing Backward Broad Jump, Standing Hop, Step, and Jump, and Rope Climb.

Non-Scorable Individual Exercises: Stall Bars (front lever), and Medicine Ball and Pulley Weight Conditioning.

Scorable Group Events: Dashes, Quarter-mile Run, and Two-mile Walk.

Self Testing (Stunts and Tumbling)—These activities are classified as follows:

Stunts (Bodily Control): Human Wicket, Knee Dip, Single Squat, Tip Up, Camel Walk, Elephant Walk, Backward Bend, Through the Stick, Jump Stick, Toe Jump, and Twister.

Tumbling (Agility): Forward Roll, Backward Roll, Distance or High Dive to Roll, Head Stand, Cartwheel, Roundoff, Cartwheel Flip, Knee Spring, Knee Shoulder Stand, Eskimo Roll (Double Roll), Three-Man Sideward Roll, Windmill Hand Stand, Hand Stand, Hand Walk, High Backward Roll, Hand Spring, Shoulder Spring or Kippe, Elbow Roll, Arm Roll, Back Over Feet, Back Over Neck, Hand Jump, and Stomach Foot Flip.

Vigorous Mass Games—A vigorous mass game is occasionally used in the developmental period and is chosen from the following list: Multiple Circle Dodge Ball, Master of the Ring, Ten Catches, Catch On, Cage Ball, Crossing No Man's Land, Mass Volley Ball, Line Tag, Mass Medicine Ball Soccer, Two Ball Soccer, Mass Black and White, One Circle Dodge Ball, Catch On Tag, Center Square End Ball, and German Bat Ball.

Selected Relays—Vigorous and active relays are presented occasionally in the developmental lesson and are chosen from the following list: Jump the Stick, Overtake, Chariot, Paul Revere, Continuous, Skin the Snake, Hopping, Jumping, Backward Running, Wheelbarrow, Obstacle (various forms), and Leap Frog.

Miscellaneous but Related Activities—

Methods of Transporting a Person—All developmental sections are given the following Red Cross methods of transporting a person: Fireman's Carry, Two-Man

Carry (Cross Seat and Hammock), Three-Man Carry in Arms, Saddle-Back Carry, Eight Man Carry on Hands, Carrying Patient by Extremities ("fore and aft"), Chair Used as Litter (stretcher), Pack Strap Carry, Fireman's Drag, Assisting to Walk, and Carry in Arms.

Judo (Modern Jiu-Jitsu)—These activities which do not depend upon muscular strength but on the scientific application of anatomical knowledge are fairly easy to master but depend ultimately upon the quickness of reaction and choosing the proper trick according to the position of the attacker. Only the simpler forms are presented. No lesson is ever taught solely on these. They are introduced informally and few at a time throughout the semester. Mats are not provided for protection since the presence of mats would encourage the roll and tumble accompanying the final application of any trick. Only the application of beginning holds and their partial performance for muscular leverage are used in order to avoid injury. These activities are good to use for motivation of men students and teach an effective method of self defense.

The Recreational Phase of the Program

Organization of the Recreational Program—Recreational sections are scheduled on Monday-Friday, Tuesday-Thursday, and Wednesday-Saturday combinations over a ten-period day beginning at 7:00 A.M. and ending at 5:00 P.M. except for one 7:00 P.M. class.

All odd numbered recreational sections have games of the athletic and highly organized recreational type on the first class day of the week while even numbered sections swim and wrestle on the same day. On the second class day of each week the activities are reversed.

When recreational sections meet for swimming and wrestling, the non-swimmers and beginning swimmers of the section are assigned to swimming for the first half of the semester and the swimmers of the section to wrestling. At mid-semester, these activities are reversed. Each recreational class section for the game period is divided into four or more divisions, thereby enabling all students to secure the greatest amount of physical activity. These divisions participate in a given activity for a stated period of time (number of weeks) and are then rotated to a different activity.

The Recreational Activities: Games Period—The games period for recreational sections during the first half of the initial semester included basketball, aerial dart, volleyball, handball, box hockey, and tetherball. During the second half of the initial semester, kick baseball, speedball, codeball, ten catches, multiple circle dodgeball, and softball were pre-

sented. Each recreational games period is terminated by a run of reasonable distance and a cleansing bath.

Swimming—Every student in a recreational section is required, unless exempted by the university health service, to take swimming. The teaching of swimming and water safety is being intensified since most of America's fighting is being done, and will be done over, under, or in the water and approximately fifty per cent of college men do not know how to swim. Due to meager time allotment the work in swimming is concentrated on crawl fundamentals, breathing, flutter kicking, and crawl stroke. It is a simplified program with a dual aim of bettering the physical condition and equipping men with swimming skills for their own use. This necessitates the elimination of other phases of swimming but insures some swimming accomplishment through elimination of fear and the achievement of skill in the most fundamental stroke. Classes are presented additional instruction when such progression is feasible. With very few exceptions, all students are enabled to swim at least one length of the pool after one-half semester's work. In order to maintain the hygienic standards of the water and to insure safety of the participants with the tremendous student load, forceful and definite pool guard rules have been adopted and are posted. A pool guard failing to comply with or enforce these rules is subject to dismissal. These rules require among other things health certificates for swimmers, conforming to thorough soap bath requirements before entering the pool, use of soap hair bath or rubber swimming cap, expelling all throat and nasal secretions in scum gutter or latrine, nude bathing, no running or scuffling, prevention of any form of uncontrolled diving, punctuality and regularity of attendance by guards, strict attention to foot cleanliness and preventive measures for foot infection, and reporting any intentional unsanitary practices and any resistance to courteous but firm authority. Movable fences on both ends of the pool were constructed to keep spectators or occasional visitors in their logical areas.

Wrestling—This combative activity is taught in progression and emphasizes the fundamentals of self defense. The instruction includes working off the feet, leg drops, wrestling from referee's position on the mat and methods of striving for falls. Co-ordination and counter maneuvers are emphasized also throughout the instruction with a premium placed on speed, skill and leverage. This activity given to all men is in keeping with the desirability of achieving a very important outcome of physical fitness, namely, self defense.

In addition to developmental and recreational classes, the students are encouraged

(Continued on page 38)

The Shifting Defense

By Harry Geltz
Football Coach, Mount Union College

A GOOD football offense solves its problems as it meets them, working constantly to find and then take advantage of defensive weaknesses and mistakes. The more uniform the defense, the easier is the task of the offense. For example, if a defensive end is playing a smashing end on a six-man defensive line, the signal caller, the blockers and the ball-carriers may adjust themselves to this type of play and change their offensive pattern to meet this particular situation. This offensive adjustment usually takes time, calling for the careful study and reporting by offensive blockers on the type of play employed by the different defensive men. This information is valuable and correct only as long as the defensive men continue to play according to one pattern. When, however, the defensive pattern changes, the attempts of the offense to meet situations are hopelessly befuddled.

If, on the offense, a team restricted itself to one (or at the most two plays) and used these with little variation throughout a game, the problem of stopping such a limited number of plays would be simplified and it would take a strong team, indeed, to run such an offense successfully. And yet defenses have been so restricted; presenting the same pattern to the offense for every play. We are all familiar with the half time comments of our linemen who report, "Their strong-side guard plays on my outside shoulder and submarines on every play," or "The weak-side end is slicing hard on every play" or "That strong-side tackle retreats a step with the blockers and hand fights." In other words, the defensive pattern is too often static, and even in those cases where a brilliant lineman varies his defensive charge, he usually does so within the restricted pathway of his set assignment for that particular game.

Importance of Varied Defense

Now, if it is important for an offense to be varied enough to take advantage of defensive weaknesses, it is just as important for the defense to be varied as well, so that the offense never knows what the defensive set-up will be until the last second.

The rules provide one great advantage to the defense when they provide for a one-second pause on the part of the offense before the ball is snapped. Properly taken advantage of, this rule means that the last move before the ball is snapped

always belongs to the defense. There is no good reason, under the rules, why a defense should be so set that the offensive blockers are going to know just where to find each defensive player before the ball is snapped.

There is no defensive pattern that does not have a weakness, and when individual short comings are added to the defensive formation weakness, the problem of the offense is considerably simplified. The longer a set defense is used, the greater the chances of the offense finding the weakness and taking advantage of it. In a shifting defense the offense never knows before a play starts what the defensive set-up will be, so that all plans to run plays in order to take advantage of certain defensive weaknesses are useless. Much scouting information is made useless as well. Offensive blocking assignments become a hopeless muddle and probably the better teams will suffer the most, because they depend more upon carrying out their proper assignments.

Shifting into a five-man defensive line and then a six, a seven and sometimes an eight-man line puts a big burden on the offense and throws the blocking assignments into confusion.

Players Adapt Themselves Easily to Defensive Formations

Many coaches feel that such shifting is likely to result in defensive confusion and defeat its own purpose, but it is no more difficult and takes no more time to teach each one of these defensive formations than it does one offensive play. Most players, once they are well grounded in fundamentals, adapt themselves to different defensive set-ups very readily and the challenge which is offered to their ability to shift serves as a strong incentive. If confusion does result when defensive shifting is practiced, it is likely to be the result of lack of practice or failure in the coaching. Either of these causes are as applicable to offensive failures as they are to defense.

The shifting which is actually the most dangerous is that which involves but two or three players, where the routine for such shift is not fully established. A shift of this kind is illustrated in the case of a short-side defensive end who charges in fast and very shallow in order to block a punt. In order to do this without exposing his flank it is necessary for some one else to take over his outside responsibility. This "someone else" will probably be the backer-up on his side who will

move up and to the outside as the end breaks in recklessly. In case the end fails to signal his intention, or the backer-up misses such a signal, the way is clear for a run by the punter; or a "Statue-of-Liberty" play may go for a long gain. When the entire defense shifts and moves into each defensive formation according to a carefully planned and rehearsed manner, costly slips on the part of individuals are not as likely to happen. The same thing is true of pass defense; the individual who is an outside backer-up on a five-man line may always have an assignment of covering the flat zone against passes and always have another definite responsibility on a six-man defensive line up, but the variation in the defenses offered against the pass will be inherent in the defense and not subject to the whim of an individual which will interfere with the assignments which may have been made for other members of his own team.

Defense Has the Advantage

Good forward pass offenses, like good running attacks, collect information upon the movements of the defense and plan their patterns accordingly. Then if these defensive movements are changed, the changes in the offensive patterns lose their meaning and the advantage remains with the defense.

It is equally true that when a forward pass defense is not working, a change to an entirely different team defense will be more dependable than attempts by individuals to change assignments or style of play. For instance, a five-man defensive line spacing makes it very difficult to hinder the movements of offensive ends in their efforts to leave the line of scrimmage and go deep down field, while a seven-man defensive line provides the best spacing for this particular effort in forward pass defense. So if deep passes are being completed against a five-man defensive line a shift into a seven-man line with the tackles delaying the offensive ends will provide at least a temporary halt to that particular kind of a pass and force the offense into another type of pass or a different style of play, which again may be ineffective as the defense keeps shifting. Or, if flat passes, (always a thorn in the flesh of a 6-2-1 defense) are being completed, it is better to change to a five-man defensive line to meet that situation than it is to change assignments on the six-man defensive lines, because the offensive pattern usually offers other

targets when the defensive men change their assignments, in the same team defense, in order to meet the most obvious threat.

There are four common methods of using team shifts on the defense. In one case an eight-man line may be used in certain assigned zones on the field (such as when the opponents are kicking out from behind their own goal line), the seven-man line used in certain other zones on the field and different zones definitely assigned to the five-man and six-man lines. This shifting may be used as illustrated in the following diagram:

OFFENSE		
10-yard line	8-Man Defensive Line	To smother running plays, rush punts, keep offense in the hole or force them into a desperate gamble in order to get out.
	5-Man Defensive Line	To present a strong defense against long gaining plays, especially a zone where bucking gains and long passes are injurious but not necessarily fatal.
10-yard line	5- or 6-Man Defensive Line	Depends upon scouting, information or known strength of opponents' offensive strength whether a 5, 6 or 7-man line is used here.
10-yard line	6-Man Defensive Line	Danger zone here for the defense. Use the most dependable defense, the one where the fewest mistakes are likely to occur. The team's traditional defense is best.
15-yard line	7-Man Defensive Line	Less space for secondary to cover—concentration against power attacks.
5-yard line Goal line	8-Man Defensive Line	Dig in—grab legs—half backs wide—no offensive ends permitted to get out.

Such a defensive plan, while clear and easy in its execution by the defense, is not as apparent to the offense or to scouts as might be assumed. Players of course must be careful in their talk to one another that they do not expose their plan, as so often happens when a careless remark is made to a team mate.

Defensive signals should be called so that players may be reminded by the defensive captain when each plan is in operation and defenses should be numbered rather than designated by name so that the offense is not as likely to be tipped off in advance of the running of their plays.

In using the second method of shifting, the defensive captain calls defensive signals while the offense is in their huddle. To do this he may cross the line of scrimmage and face his team mates in order to make his signals clear and if he leaves such a position before the offensive team comes out of the huddle there is no objection from the rules.

In case the offensive team is calling signals without a huddle the defensive captain will call his signals from his defensive position and, if he has a loud enough voice, he may force the offensive team to use the huddle in order to make sure that their signals are not confused by defensive signal calling. There has been some objection to such defensive signal-calling on the part of teams which call signals rather than use the huddle, but the right to call signals is not restricted by the rules to the offensive team, providing that such defensive signal-calling is a legitimate effort to signal team mates and not an act "for the obvious purpose of disconcerting the offense" as stated in Section 3 of the Rule Book under the

heading "Unsportsmanlike Conduct."

The success of such a use of the defensive shift depends to a great extent, of course, upon the judgment of the defensive signal-caller. He may change his defense on every down for a while; he may change according to a pre-arranged plan similar to the one outlined here as plan number one, (automatically changing according to different zones on the field), or he may stay with one type of defense as long as it is successful and then change only when the offense seems to have solved the defense which has been in use.

it is not always possible to make a substitution exactly at the time desired without penalizing the team by so doing. Such a plan also takes away from the defensive signal caller the initiative which he should develop, and prevents him from making use of information which he has acquired, that the coach may not have. This plan, however, has been followed with success in many instances.

These four methods of shifting may be practiced during scrimmage sessions so that the entire squad may be familiar with each plan. It is likely that during the season all four plans will be used at some time or other. No matter which method is being used, however, a good defensive signal-caller is almost indispensable to defensive shifting, since he is the one upon whom rests the responsibility of meeting changing conditions.

It is not the intention of this article to cover the entire field of defensive assignments. These assignments are well covered in other articles and textbooks. Since shifting cannot be done haphazardly, but must follow a well-conceived and carefully followed-out plan, the following outline of the shifting involved in defenses against one type of offense will serve to illustrate the manner in which the defenses may be worked out against other types of offensive formations.

Defensive players are numbered in order to show the different positions which the same player may be called upon to take. The single-wing back offense is used for the offensive pattern because it is prob-

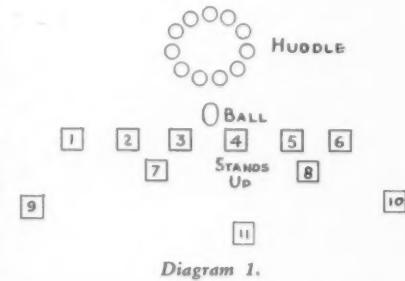


Diagram 1.

ably the most common at the present time. Diagram 1 shows the five-man line defense against a single-wing back.

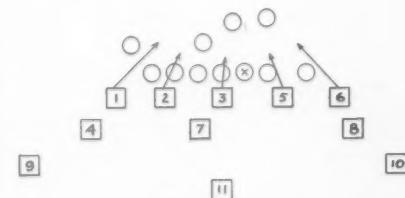


Diagram 2.

As soon as the offensive team comes out of the huddle the defense shifts into the defense shown in Diagram 2.

In this shift but one defensive player is

involved in a shift that calls for an entirely different type of play than that which he may be accustomed to on a six-man line. On account of substitutions, it is important that this shift always be made by position, rather than by individual. In this particular case number four needs to be a versatile player who is alert enough to shift at the proper time and be able to function as a line-backer. This shift may be accomplished, of course, by another player; that is, the left end may simply drop back from a six-man defensive line to become the outside backer-up on a five-man line, or any other player may be used. However, the type of player who is usually used at the defensive right guard position, on a six-man line, seems to fit into a shift a little more aptly than any other, and there seems to be less disturbance of the functioning of the other members of the defensive line when this particular shift is made. The performance of the individuals within the different defenses is not a part of this article, the effort here being to show the value of shift-

ing and the simplicity with which the shifts may be effected. In each case the defense lines up in a six-man line, until the offense comes out of the huddle, with number four defensive player always standing up, preferably about a yard behind the line of scrimmage so that he may move quickly into his proper position.

On a six-man defensive line, he simply drops into his natural position, on a seven-man line either number seven or number eight also goes into the center of the line and the other linemen spread into their assigned positions on a seven-man line. It is better to put the extra man into the center of the line than it is to put him into an outside position where the demand is for more versatility.

On an eight-man defensive line one of the backs goes into an inside position on the line and the balance of the line spreads into their assigned positions. In each case the effort is made to keep the strong side backer-up in the backing up position and not to disturb the personnel of the defensive half backs because of the extreme

penalty which is exacted when defensive halfbacks make mistakes, especially on pass defense. These different defenses can be assumed without affecting the halfbacks, although their duties and responsibilities will vary to some extent.

This method of shifting is more reliable than the use of a defensive huddle which forces too many players to hurry to get to their assigned stations. Such a huddle is not necessary, because signals may be called while the offense is in the huddle.

There is nothing new in this defensive shifting, but the reluctance of many coaches to use it has been a factor in the increased scoring which has been noticeable this past year. It is true that a shifting defense, especially, must be on their toes and the players coached well in their specific duties and assigned positions for each defense.

It is also true that there will be days when a team is back on its heels and all defenses will look alike, none of them effective. But that is just as true of the offense.

Organizing the Coach's Thinking

By Louis Lerda

Coach of Basketball, Scott Senior High School, Coatesville, Pennsylvania

COACH JOHN SMITH, M. P.—Master Perfectionist. That should be the title of every coach, for, that is what we are all striving to attain—perfection. Perfection in the execution of fundamentals; of offenses; of defenses; and mastery in every situation. The coach who succeeds in attaining a higher degree of perfection than another is the coach who wins.

The attainment of this goal of perfection or near perfection is not easy. It means hours of careful preparation, and of sound thinking followed by hours of well-organized practice on the basketball court. The coach must therefore use all of the materials at his command. He must study the best literature in his field, keep abreast of new changes, and learn what his fellow coaches are doing. This means building up a library of the best books on basketball, reading the athletic magazines, attending basketball clinics and summer schools, and attending as many college and "pro" games as possible and games between high schools which have a reputation for playing good basketball.

Even after he has done all this, the knowledge gained will be of little use, unless he can organize it in such a way as to make it instantly available for use by his squad. Herein depicted are some materials, devices and suggestions which help organize the coach's thinking and keep information instantly available for use in

coaching.

In the background of Illustration 1 is a folding-type Strategy Board to carry

along at games. This is used before the game and between the halves to chart plays, offenses, or defenses so the squad



Illustration 1.

can get a picture of what the coach is trying to say.

The numbered circles are cut from battleship linoleum, numbered one to twenty and a hole is drilled through the center so that they slip over a peg, making them easy to handle and keep together. They are used for spot shooting and in setting up contest drills during practice sessions.

is carefully labeled so that all data is easily found. This is truly the coach's storehouse of basketball knowledge and does more to organize the coach's thinking than anything else I have tried.

Each game played or witnessed is carefully charted and notes made of each individual player so that when the team is met again, all the knowledge gained from

the previous encounters is immediately available for reference.

Illustration 3 shows a card table with plywood top upon which is a diagram of a basketball court and wooden blocks to represent players. This table is used to work out plays and strategy, and may be carried along as part of the coach's equipment or kept in his office or den for his own personal use. It has proved invaluable in working out defensive and offensive maneuvers, and to visualize what the opponents do under certain situations.

In addition to the materials shown, a careful chart is kept of each game to show shots taken, baskets made, from what position and by whom, fumbles, interceptions, rebounds, etc.

A free-throw shooting bumper board is kept in the team room. Any player on the board may challenge any other player two places above him. If he makes more free throws than the player challenged, he replaces his opponent on the bumper board and continues to challenge others until he reaches the top of the board.

We give the top five free-throw foul shooters the privilege of bringing their parents to home games as our guests. This creates intense interest in free-throw foul shooting and helps improve the shooting of every member of the team.

These are but a few of the devices and materials which the coach may use to make the vast store of basketball information and knowledge instantly available and usable.

The efficient coach will use many others and the results will compensate him for the effort expended.



Illustration 2.

The small floor diagrams are four by six blanks for charting plays, offenses, and defenses and for scouting reports. They are the right size to fit the cabinet shown in Illustration 2 and are kept on file under the appropriate heading.

The manual to the left is a booklet on fundamentals written by our coaching staff, printed in our school shop and distributed to each member of the squad at the start of the season. It illustrates and describes exactly how we want each fundamental executed.

To the front of the photograph is a small Strategy Board with Golf Tees for men. We use it in our coaching staff discussions to devise plays and new formations, and to work out the strategy to be used against our opponents.

Illustration 2 shows a cabinet which fits on top of a standard desk top, and is used for filing the four by six cards shown in Illustration 1. Each drawer is divided into three compartments, making instantly available any information on basketball that the coach needs. Information, scouting reports, offenses and defenses, individual play data, and cross references to articles in the ATHLETIC JOURNAL together with team notes are filed under thirty headings. Each drawer



Illustration 3.

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JOHN L. GRIFFITH, Editor

Men and Munitions

SOME months ago questions were being raised as to whether or not our economic system was competent to produce the necessary guns, planes, tanks and munitions in the factories to win this war. The question was sometimes raised as to whether or not we were capable of producing enough food supplies to meet the wants of our own people and to help feed our allies.

It is not too early to answer these two questions affirmatively. As one of many examples, Mr. Ford, in his factories is turning out tanks and bombers in more profusion than those, who had doubts about our industrialists, could have dreamed possible. Our farmers and others are certainly producing food stuffs in great quantities because we are told that surpluses are stored on the farms, in the warehouses and elevators throughout the country. It now appears that we need not worry too much about the ability of the men and women of this country who are of the economic order. That is, the men and women who produce wealth. As always in the past, this country has shown its greatness by demonstrating its ability to produce what it takes in war time, as well as in peace time.

Another question arose some time ago and that was whether or not our boys had lost the will to win and lacked the courage to fight the war which has fallen to the lot of this generation of young men to fight. The heroic record of our boys on battle fields, in the air, under the sea, and on the seven oceans has already demonstrated that these boys of ours are carrying on in accordance with the best tradition of army and navy men, and that, man for man, the American soldier can meet any soldier from any country anywhere any time and give a good account of himself. We may, as a people, have grown soft through easy living, but our boys still have fighting hearts, as they are so wonderfully demonstrating in this war.

Here are two questions, then, that apparently have already been answered, and the war, so far as

we are concerned, has just started. When the war is ended, other elements of strength and weakness in our body politic will be apparent. For the time being, it is well just to relate, first, that our boys who are wearing the uniform are fighting men and, second, that our boys and girls, men and women, whether classed as labor or management, are also doing a great job. Those who a few years ago were condemning our economic system are, for the moment, quiet. Even they want to win the war and, no matter what their feelings may be toward the people who constitute the economic order, they realize that our industrialists are doing a great job and it is not wise at this time to interfere with their war progress.

Offense versus Defense

AT different times in the last twenty years we have attempted to discuss in the pages of this magazine relative values of offense and defense in our team sports. We are sure that the majority of the coaches and athletic directors agree with us that the American people are offense-rather than defense-minded. They do not enjoy watching games where the offense has too hard a time scoring. Of course it is always necessary in football, for instance, to strike some kind of a balance but our teams in recent years have been scoring more frequently, both in basketball and football, than formerly was the case.

We are now having brought to our attention the fact that our army, navy and air force all have been trained to fight on the offensive. Perhaps this further is an exemplification of the American spirit. In the last war, after the allies had held the trenches for some years, the American troops joined the fight and demonstrated the value of offensive tactics. In this war, we have temporarily been on the defensive, because the Japanese attack on Pearl Harbor caught us unawares, but we may be sure of this, that from now on, as we become stronger and stronger, the American admirals and generals will direct offensive warfare. This perhaps is another correlation between military and naval philosophy and the philosophy that has proven right on the playing fields.

Where the Responsibility Lies

"ONE cannot read about the large number of young men rejected from the military draft without wondering if, somewhere along the way, there has not been neglect in looking after the physical condition of the nation's youth.

"In these days of world crisis, it is particularly important that serious thought be given to meeting this problem, and to improving the physical condition of our citizens, especially the nation's young people, so they will be physically and mentally prepared for effective service to their country.

"I think much could be accomplished toward this end by an expansion of physical education and ath-

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etic training in our educational institutions. Such an expanded program would do much to build the foundation for a nation of strong and sturdy citizens, capable of meeting any problems the future may bring."

The above quotations are taken from a letter written the editor of the *ATHLETIC JOURNAL* last fall by Honorable John W. Bricker, Governor of the State of Ohio. Governor Bricker is a former Ohio State athlete and this letter referred to was published in the November issue of the *ATHLETIC JOURNAL*. We are calling attention to it now because there are those who are attempting to fix the blame for the fact that so many of our young men who have reported for military and naval service were rejected because they were physically unfit for service. We have, heretofore, called attention to the fact that a great many of the boys who were found defective had not had the benefit of physical training in any of our schools or colleges. Attention has been called to the nature of the defects, mostly eyes and teeth, which are not susceptible to treatment, so far as our physical training instructors are concerned.

We have not done as well as we should in the matter of using our schools and colleges as training centers—training centers in the physical sense of the word. The fault for this lies very largely with the school administrators who have been loath to make physical training compulsory in the schools or colleges. We continue to call attention to this matter, not because we wish to pass the buck to our hard worked and capable men and women who are administering the nation's schools and universities, but because, if our thesis is correct, we ought to do something about this before too much time elapses. Already there are university faculties and governing bodies that have not been willing to make physical training compulsory for the young men enrolled as undergraduates in those institutions. It is hard to believe this when already six months have elapsed since war was declared.

What Have We Accomplished?

IN the May 1941 issue of the *ATHLETIC JOURNAL* we pointed out that if we were going to enter into an all-out participation in the war which was then waging in Europe, a war which even then promised to become in every sense of the word a world war, then all of our institutions, including our physical training and athletic institutions would ultimately be appraised in terms of their value to such a war effort. We suggested, then, that the men and the women who are conducting the physical training and athletic work in the schools and colleges take stock and decide just what could be done in terms of military preparedness. In other words, what contribution could the school and college physical education people make to the war effort?

In the twelve months that have elapsed since this editorial was written in May 1941, a great many of the schools and colleges have, first, decided to carry on their athletic training and athletic programs through the war; second, have changed their pro-

grams to fit war needs, especially the needs of the boys who will be, and many of whom already have been, inducted into the service and; third, have made physical training compulsory.

After Pearl Harbor many of these universities made physical training compulsory for the undergraduate students, and others are considering the advisability of following the same course now.

Army and navy units have been established on many campuses and in most cases the gymnasiums, field houses and athletic fields have been commandeered by the army and navy.

We have been presenting some of the programs which have been put into effect and are publishing in this issue reports of the work that has been done by outstanding schools and colleges along this line. We feel satisfied that the educational institutions have seen their duty and are acting accordingly.

The excellent presentation in our April issue of the plan of operation at the University of Texas by L. Theo. Bellmont, director of the department of physical training, has already served as a stimulus to other directors. The work accomplished indoors by W. L. Childs of New Trier High School as described in this issue is a concrete illustration of what may be accomplished in the high schools. When Charles Bachman of Michigan State saw that the swimming pools of Lansing were not open after four o'clock, he immediately suggested to the board of education of that city the need of their being operated for longer periods.

John T. Doyle

A NOTHER great figure in the sport life of this nation has passed away. We refer to Mr. John T. Doyle, formerly President of the American Sports Publishing Company and Publisher of the Spalding Rule Books and Sports Guides.

Mr. Doyle served the firm of A. G. Spalding & Bros. for fifty years. In the early days he worked with Mr. James E. Sullivan who was then President of the American Sports Publishing Company. From this association Mr. Doyle gradually took over the work of publishing and editing the rule books. A great many men who are now prominent in the sport world, especially the school and college part of the sport world, knew Mr. Doyle intimately and, knowing him, realized that no man took greater pride in his work than John Doyle who with meticulous care collected and edited the copy which appeared in the guides that countless numbers of athletes and coaches have used through the years.

We need to be reminded from time to time that this is still a young country and in paying tribute to a man like John Doyle it is well to recall that during his seventy-one years, most of which were actively spent in promoting the nation's games and helping to record the achievements of the outstanding athletes, he built his life into an institution which we believe has been of tremendous value to our country.

We all regret the passing of this friend and sports builder, but we glory in the things that he stood for and in his achievements.

WHY THE NAVAL AVIATION COACHING SCHOOLS?

A NEW type of coaching school will come into being this summer—one in which for two weeks the "students" will be, to all intents and purposes, part of the navy while they are learning how naval aviation's physical fitness program for flying cadets operates.

The Honorable Frank Knox, Secretary of the Navy, and Admiral Jacob, Chief of the Bureau of Naval Personnel, have just approved a plan formulated by the aviation training division of the Bureau of Aeronautics for the establishment of special coaching schools open to all school and college physical education and athletic department teachers and administrators. These schools will be held at the United States Navy's four pre-flight schools from August 3 to 15, inclusive.

These schools will enable the civilian physical training specialists to learn, at first hand, how to adapt their school and college programs to the nation's war-time need for stronger, keener, more rugged youth.

The decision to establish these special courses was made after the aviation training division had received a large number of letters from schools and colleges all over the country requesting details of the revolutionary body-building and toughening course now in operation at the preflight schools at the Universities of Georgia, North Carolina and Iowa, and the College of St. Mary's in California. These pleas for assistance in formulating up-to-date physical fitness programs for civilian institutions indicated to the navy the desirability of organizing the projected coaching schools as a means of making the information available in its best possible and most easily assimilated form.

For a two-weeks' period in August, properly qualified persons will be permitted to familiarize themselves with naval aviation's physical training program by attending lectures, watching demonstrations, observing the cadets going through the routine and actually participating in some of the work. They will live in the pre-flight schools, ob-

serve the same regulations as the cadets, eat the same food, engage in military drills and follow the course under the supervision of the officer specialists who are making the navy's future flyers tough and smart.

By this method, it is expected that the civilian educators will acquire a thorough understanding of the steps necessary to make young Americans stronger and more rugged physically, keener and more alert mentally, and the sort of competitors who will be ready for their responsibilities when the time comes for them to take up their duties in the armed forces of the United States.

There will be no tuition fee for the course, but those attending the schools will be required to pay in advance charges for food and laundry. All coaching school "students" must live on the stations and adhere to the regulations laid down for their administration. There will be no charge for lodging.

The curriculum will include instruction and practical work in hand-to-hand combat, military track, gymnastics and tumbling, football, basketball, baseball, soccer, swimming, wrestling, boxing, hiking, mass exercises, sports program organization and military drill. The instructors will be officers who were experts in their fields in civilian life, before they volunteered for service in the naval aviation physical training program. Their ranks include many of the country's most prominent and competent coaches and physical education specialists. Obviously it is impossible in this limited space to name anywhere near all of them, but a few of the more prominent are listed in the accompanying announcement with their pre-flight school stations.

Applicants may attend any one of the four schools, but it is expected that they will select the one nearest to their homes. Because the facilities of the pre-flight schools are limited, it will be necessary to restrict the number of persons taken into the coaching schools. For that reason, it is advisable that applications be filed promptly.

NAVAL AVIATION COACHING SCHOOL IN PHYSICAL FITNESS

The four United States Naval Pre-Flight Schools will each conduct a two weeks course for high school, preparatory school and college coaches, athletic directors and physical instructors of all sections of the country. The course will include instruction in all the sports and specialties, which are being given the

Naval flying cadets to prepare them for their flight duties. An opportunity for study and observation of the cadets in training will be provided. The problems of the various civilian schools' physical training programs fitting the needs of the armed services will be extensively covered.

The course will include instructions in the following sports:

Hand-to-Hand Combat	Sports Program Organization
Military Track	Swimming
Gym and Tumbling	Boxing
Baseball	Football
Soccer	Wrestling

Basketball
Hiking
Mass Exercise
Military Drill

Coaches will be given military drill, and live in the dormitories at these schools.

The only charge will be that to cover the cost of food. No tuition or lodging fee.

Families should not accompany coaches.

U. S. Navy Pre-Flight School—Chapel Hill, North Carolina
U. S. Navy Pre-Flight School—Athens, Georgia
U. S. Navy Pre-Flight School—Iowa City, Iowa
U. S. Navy Pre-Flight School—St. Mary's College, California

IOWA

BERNIE BIERNAN { Football
LARRY MULLINS { Basketball
ROLLIE WILLIAMS, Basketball
LARRY SNYDER { Track
RUSS WALTER {
ED HAIZLET, Boxing
DAVE BARTELMA, Wrestling
WESLEY BROWN, Hand-to-Hand
HARTLEY PRICE, Gymnastics and Tumbling
MITCHELL GARY, Mass Exercises

GEORGIA

BEAR WOLF { Football
DUTCH SMITH {
D. T. CAMPBELL, Baseball
CHOC SPORTSMAN, Track
ROY SIMMONS, Boxing
CLIFF KEEN, Wrestling
MARSHALL BROWN, Gymnastics and Tumbling
W. F. FOSTER, Swimming
MIKE BRUMBELOW, Sports Program

NORTH CAROLINA

JIM CROWLEY, Football
GLENN KILLINGER, Baseball
DICK REESE, Basketball
BILL NEUFELD { Track
JACK MORRIS {
POP SPEIDEL, Wrestling
ED GEORGE, Hand-to-Hand
EARL WATERS, Soccer
JOHN MILLER, Swimming
JOHN SABO, Mass Exercises
HARVEY HARMAN, Sports Program
OLLIE WOOLFF, Boxing

ST. MARY'S

SAM BARRY { Football
TEX OLIVER {
FORREST TWOGOOD, Baseball
EVERETT CASE, Basketball
JACK WEIRHAUSER, Track
IKE DEETER, Boxing
W. E. MCLOUD, Soccer
CHARLES KEENEY, Gymnastics and Tumbling
JOE TORNEY, Swimming
CARL YOUNG, Mass Exercises
JIM BLEWETT, Sports Program

Note: The coach readers of this publication, not wishing to tear out this blank may make an exact copy of this application blank for mailing to the commanding officer of the Navy Pre-Flight School.

Commanding Officer
Navy Pre-Flight School

(Fill in location of school you wish to attend.)

I wish to enroll in the special coaching classes to be held at your school August 3-15, and agree to conform to the regulations established for the conduct of this course. I will pay in advance for the cost of meals and laundry.

..... ()
Name _____ Age _____

Position _____

(Home Address)

(School or College)

(Applicants will attach a small recent photograph of themselves)

The Teaching of Rhythm to Distance Runners

By Ford Hess

Coach, Garden City, Michigan, High School

(Continued from May issue)

EVERY runner is aware of the physiological effects of his endeavors. He knows he will experience a degree of breathlessness, that he will feel tired, yet he also knows that he will receive some relief with the onset of the so-called "second wind," and that after this he will be able to continue his race with relative ease without having to slow down.

It is not believed that breathing can be controlled throughout the full distance of the run; facts have proven otherwise. However, it does seem plausible to assume that the runner can increase his efficiency by taking advantage of that time during which voluntary control over breathing may be continued. The nature of a distance run is such that it requires only a small portion of work from each of the numerous large muscles involved. Because of this fact the oxygen needs tend to be met by a not very high increase in respiration and pulse rates up to the point where the so-called second wind occurs. At this point the pulse and respiration rates seem to have reached a maximum increase and it becomes necessary to either slow down the pace, or as is hoped by the distance runner, to get the second wind. Oxygen consumption increases as the square of the speed.¹

This law applies specifically to distance running as well as to sprinting or other types of muscular effort. A distance runner starting out fast and gradually leveling off to a steady rate reaches his highest peak of oxygen consumption at that point where his speed was the greatest. A distance runner starting out at a more moderate rate, neither decreasing or increasing this rate to any appreciable amount as the distance is increased, would, according to this law, reach a peak in oxygen consumption at that rate at which he started. Oxygen being a factor in the recovery process, it follows that any increase in oxygen consumption means an increased rate of recovery necessary to continue the activity in progress. If the oxygen consumption increases as the square of the speed, then it might likewise be stated that the rate of recovery increases as the square of the speed, other things being equal. In other words, it becomes necessary to re-

convert the products of metabolism at a more rapid rate if the activity is to be continued at that same pace. In running a two-mile race in which the fastest quarter is run in 63 seconds, the oxygen consumption is greatest at this rate. As the race continues, the pace settles down to a 70-second average for each 440 yards, thus the oxygen consumption would tend to decrease gradually, reaching a steady level which can be continued for the duration of the contest. This appears to be true in the case of a distance runner who is able to put on a fairly good sprint the last 200 yards of the race. The efficiency of the muscles (their ability to reconvert fatigued products) plays an important role in determining oxygen needs.

Assuming that voluntary control over breathing can continue as long as the oxygen needs of the body are adequately met, it seems logical to conclude that, with constant training a series of co-ordinated rhythmic breathing reflexes could be developed which would be as normal for distance running as the regular breathing rhythm is for walking.

Following the definition of rhythm, it can be seen that the short, gasping breaths taken during, or immediately after, vigorous exercise constitute a deviation from the general pattern of movement followed during the normal resting state. Among the effects of training noted by various investigators was that of a low respiration rate among trained athletes. This is significant in that the factors responsible for the control of respiration must be so affected by training as to cause this decline. A theory has been advanced that it is the hydrogen concentration that acts as the normal stimulus in the activity of the respiration center, and that carbon dioxide causes the increase in the hydrogen concentration. Hence, carbon dioxide being a product of the fragmentation processes, it follows that lung ventilation must become more efficient in vigorous exercise to eliminate the increased carbon dioxide content of the blood. A reduction in the normal respiration rate is one of the factors in this increased efficiency. Such a reduced respiration rate for the normal resting state means a greater capacity for raising the rate of breathing and the total respiratory quotient. The "ceiling" is thus raised, with a greatly increased differential between the basic rate and the maximum rate. An athlete with

a low normal respiration rate will thus be able to engage in more vigorous exercise than a non-athlete due to the fact that the many factors making for a low respiration rate enable him to be engaging in quite severe type of muscular exercise with only a metabolic rate of the non-athlete who is engaging in moderate exercise. All this tends to support the conclusion that the athlete through training (practice) has eliminated unnecessary movements and consequently energy thus directed has not been wasted. In the case of the non-athlete, the reverse is true. The unnecessary movements in breathing prove no exception. It is important, therefore, in any training program for distance running to determine the form (balance of tensions) in breathing which accompanies the exercise involved in distance running. This form may be determined by inhaling on two steps and exhaling on the next two steps, this done on a 1-2-3-4 count. This system has been put into practice by Ortel of Munich in his treatment of cardiac patients. It seems advisable to suggest that combinations of controlled breathing, worked out to conform, to the type of exercise to be undertaken, would be an asset in the training program of distance runners. One point further should be noted here, that of inhaling and exhaling with the steps taken, Ortel, with his cardiac patients, had them inhale with one step and exhale with the other. As the efficiency of breathing increased, the number of steps likewise increased. Thus in this study, where it has been suggested that the runner inhale on the first two steps and exhale on the next two steps, it should be kept in mind that the breathing efficiency of some runners may require more steps per inhalation and exhalation than the 1-2-3-4 step method. On the other hand, there may be some runners whose breathing efficiency would not warrant the 1-2-3-4 step method. In other words the breathing must be regulated to assure the runner of a definite rhythm between breathing and the steps taken. As indicated above this depends on his breathing efficiency. Further consideration of the method for teaching this rhythm will be discussed later.

Speed Defined

The term speed applies to a type of muscular effort wherein large amounts of

¹ Schneider, Physiology of Muscular Activity, W. B. Saunders Co., Phila., Pa., 1933.

work are accomplished in a relatively short time. Exercises involving this type of muscular effort are referred to as speed exercises.

The nature of the muscular movements in both exercises of speed and endurance is a rhythmic succession of similar movements. The muscles involved are, for the most part, of the so-called large muscle group.

In speed exercises, this rhythmic succession of similar movements occurs frequently over a short period of time. In exercises of endurance these movements occur less frequently but for a longer time.

The thesis followed in this study suggests that speed exercises included in the training program for distance running are of secondary importance. The following facts are cited as support for this belief.

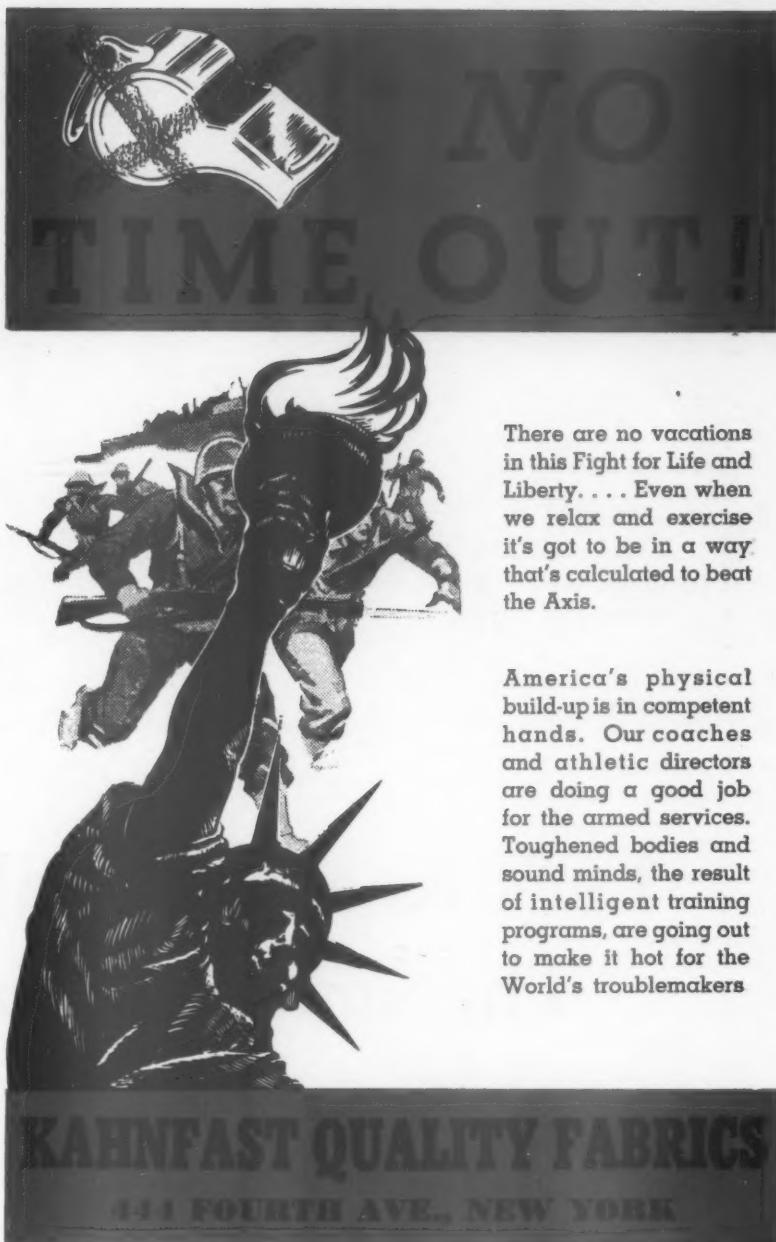
1. The output of mechanical work resulting from exercises of speed is so much less than that of exercises of endurance that the muscular, circulatory and respiratory systems, to derive the degree of training which would make them perform the work placed upon them in a distance run as efficiently as possible, would require that they be performed twenty or thirty times each day. This would be impossible. The mechanical work output for exercises of speed and endurance computed by Marey, Zuntz and others represents a proportion between energy and work resulting.

2. The fact that a runner, capable of attaining a speed of 50 seconds for one quarter-mile run, offers no physiological reason for assuming that he can run eight quarter miles at an average pace of 70 seconds per quarter.

3. There is no physiological proof for assuming that the qualities which make for speed are the same or even show a correlation with the qualities which make for endurance. On the other hand there is much evidence to show that athletes capable of supreme rates of speed for short distances have a negligible degree of endurance.

4. Physiologically, exercises of speed increase the metabolic rate considerably and in a short time. The products of this increased metabolism, due to speed exercises, are formed at such a fast rate that the heart and lungs can not possibly supply the oxygen needed in the recovery process as long as the exercise is in progress. Thus it requires a cessation of the speed exercise to allow recovery to take place. Fortunately, this comes about quite rapidly after the exercise has ceased, especially in the well-trained athlete. When the heart and lungs can not adequately meet the muscular demands made upon them without a cessation of that exercise the value of the exercise is, it would appear, less than in an exercise in which the heart and lungs can meet the muscular demands as that exercise is in progress.

(Continued on page 36)



There are no vacations in this Fight for Life and Liberty. . . . Even when we relax and exercise it's got to be in a way that's calculated to beat the Axis.

America's physical build-up is in competent hands. Our coaches and athletic directors are doing a good job for the armed services. Toughened bodies and sound minds, the result of intelligent training programs, are going out to make it hot for the World's troublemakers

COLORADO COACHING SCHOOL

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Denver University Stadium, Denver, Colorado



Front Row—Sam Clemente, Usher, MacFaden, Criswell, O'Dell, Rosenthal; Second Row—Snyder, Smith, Vinbladh, Manuel, LeGrand, Roxburgh, Morrow, Switters; Back Row—Jim Kennerly, Hayes, Wes Kennerly, Savin.

Let's Keep Baseball Going Through the Summer

Junior Baseball Builds Real Americans

By H. L. Chailloux

Director, National Americanism Commission
The American Legion

THE American Legion Junior Baseball Program has since 1926 been the largest nation-wide amateur sports program. More than five million boys have played baseball with the Legion teams during the life of this activity. Good character, leadership, sportsmanship, and play to the rules have been top by-products of these sandlot schedules.

Eighty-five former Legion stars are now in the major leagues and more than three thousand are in the minor leagues. We have a right to be proud of these young men in baseball. We hope that we have helped them on the climb toward the top. These boys are the thumbnail records of our interest and accomplishments in Junior Baseball.

Time nor space will permit me to tell you even a few of the human interest stories of the lives of thousands of the boys who have played baseball on these teams and who have been inspired to come through—to make a bingle in a pinch. If you could hear the intimate stories of family ties, hardships, love and sacrifice as they are told by boys who play baseball, you would understand what a break in life can really mean to some of these boys. The drama of everyday life from every walk of life is interwoven into the story of junior baseball on the sandlots during the summer play months.

Now we are at war! Our freedom and our economy are at stake! Everything that has made life worth while for this cross section of young Americans whom we have guided and have learned to love is now "cards up" on the table. We must fight to keep America what we have wanted her to be. In order to win this fight, we must keep faith with the American boy. We must curtail nothing in positive youth programs which we can find

a way to keep alive.

We must all be busily engaged in the emergency of the moment—the all-out defense of the United States of America, and with it the liberty, freedom, and free enterprise which have made us a strong nation.

If we are to make our country strong enough to win, we must build strong bodies and healthy minds. Physical fitness is one of the big jobs of this year. More than half of the young men who are called into the armed service in defense of our country cannot pass the physical examination. It is paramount then that we devote more time and more effort to the physical welfare of the young men of our communities.

The American Legion Junior Baseball Program can be a vital factor in helping to do this job. There will be many disturbing elements to reduce the number of baseball teams this year. Transportation difficulties cannot all be surmounted, but we will find a way to do the best possible job. Junior baseball for 1942 will help develop young Americans who have the

will to win not only on the diamond, but in the game of defending our country.

This story would not serve its purpose if, through it, I failed to tell the story of the San Diego, California, team which won the 1941 National Junior Championship. That was really an all-American team. San Clemente's parents were born in Spain. Rosenthal's parents came here from Russia. LeGrand's mother was from Belgium and his father from France. The Kennerly brothers were half Chinese—their mother came from China. Manuel was a colored boy—and, well, the other boys were only Americans. Here we find all of the real spirit of Americanism.

There is no need for you to ask how these boys of such a melting pot worked together. Perfect, of course—otherwise they could not have won the National Junior Championship.

American Legion Junior Baseball builds real Americans.

Coaches! You Can Keep' Em Playing

By Earl Hilligan
American League Service Bureau

THIS is the "make-or-break" time of year for the careers of thousands of high school boys who have a special liking and aptitude for playing the national game—baseball.

Throughout the nation high schools are winding up the school year, with a thousand and one high school baseball teams closing out their spring schedules. The finish of those prep programs means, in all too many cases, that many boys of talent will lose touch with the sport and eventually lose the grace, rhythm and physical condition that enabled them to stand out as high school players.

Lew Fonseca, promotional director for the American League and producer of the league's annual baseball movie, says the fifteen to twenty-age bracket is the most important period in lives of boys who want to enter organized baseball—and advises every boy who hopes to some day reach the big leagues to continue playing the game through the summer months.

"There is only one way to learn baseball and that is to play it constantly," says Fonseca, former star in both major leagues and one-time manager of the Chicago White Sox. "Baseball calls for a combination of many things—throwing, running, fielding, hitting, fast-thinking—and it must be played constantly by that boy who wishes to make the grade in big-time competition."

"Big league stars who are put out of action by injury soon begin to feel the effects of a lay-off. With youngsters of the fifteen to twenty year-age bracket this lay-off is even more dangerous, for those

(Continued on page 41)

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WILL LAST LONGER...
STAY SPRINGIER...
if they're filled with Genuine
OZITE
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• The way to make sure that your gym mats will stay softer, safer, springier *years longer* is to specify fillers of Genuine OZITE Gymnasium Mat Felt... wherever and whenever you buy. Because it's ALL-HAIR, this better filler stays thick and springy longer under hardest use and can be used again when covers wear out. OZITE is safer... felted without needles by OZITE Platen Process... no chance of injury from broken points or metal bits. OZITE is heavier and denser than ordinary fillers... laminated construction assures a flat bumpless lie!

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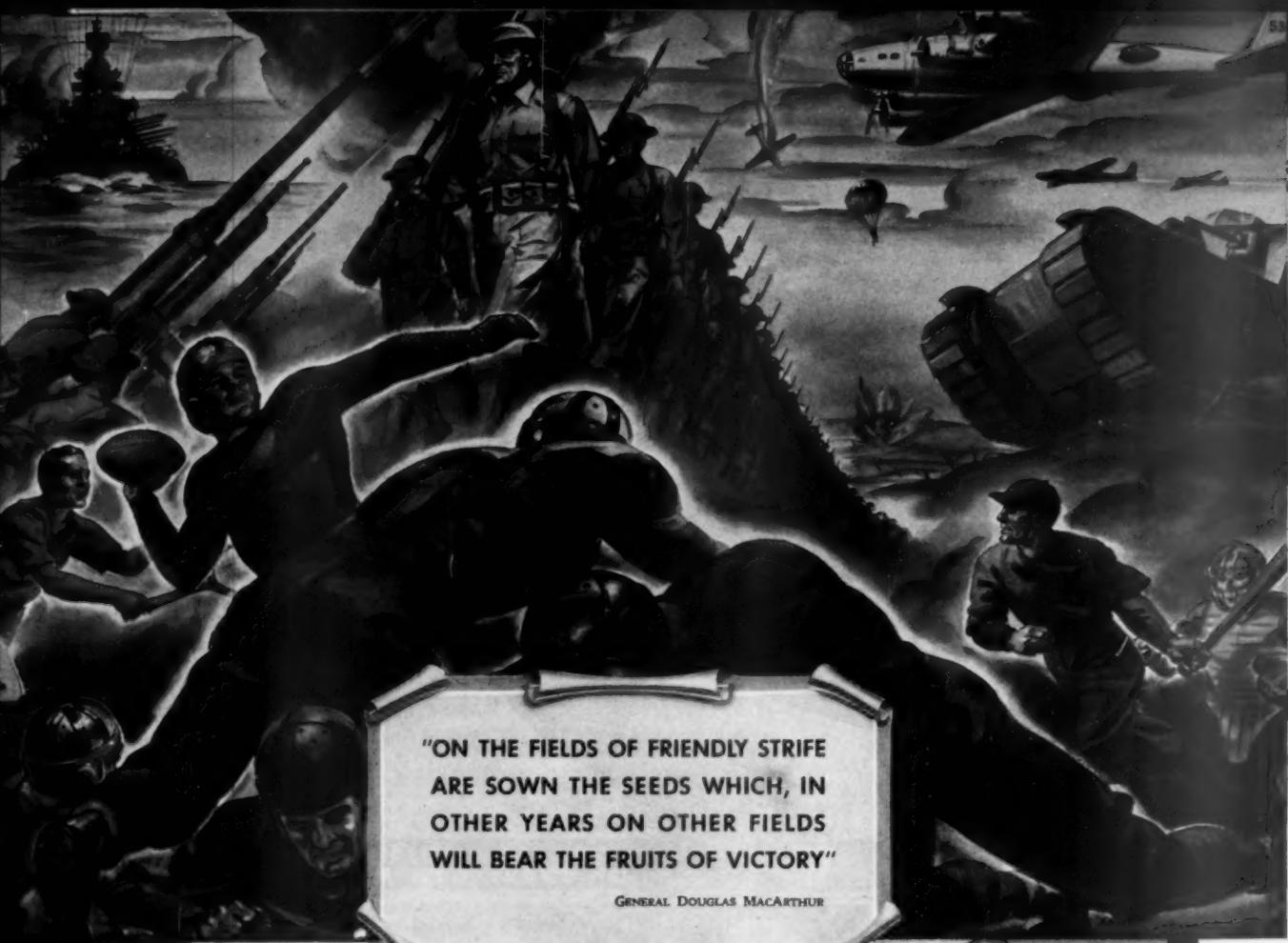
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**As Originally Developed by...
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Fills a need in every school... Goal-Hi is a new year-round indoor and outdoor playgame for boys and girls of all ages... May be played by entire gym classes or playground groups... Some single piece of equipment may be used in the gym or on the playground... Unexcelled as a stimulating exercise and as a lead-up game to regular basketball... It costs little to play Goal-Hi.

Write for Catalog
Also manufacturers of Basketball Backstops, Basketball Scoreboards, Gymnasium Apparatus, Playground Apparatus and Telescopic Gym Seats.

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**"ON THE FIELDS OF FRIENDLY STRIFE
ARE SOWN THE SEEDS WHICH, IN
OTHER YEARS ON OTHER FIELDS
WILL BEAR THE FRUITS OF VICTORY"**

GENERAL DOUGLAS MACARTHUR

The Secret of America's Strength

By L. B. Icely, President
Wilson Sporting Goods Co.

When you suddenly decide
to pack up wife and family
into the car and take a
vacation for a few days to that winter
resort, you find plenty of sport and
relaxation there and sometimes you even
find "no room at the inn" at all.
Then it is that you become very
much aware of the truth of the re-

mark you hear everywhere these
days—“America lives out-of-doors.”
America is active. America is con-
fident. And as a result, America is
confident in a world that has shaken
the confidence of most people.
America is strong in a world where
country after country has gone down
under the conqueror’s ruthless ho-

HOW TO MAKE “WAR GOLF” PAY!

By E. B. ICELY, President
WILSON SPORTING GOODS CO.

This is a time when players should get
the very utmost out of their equipment.
That means clubs should have extra care-
experts, such as you can give.

Face “War Golf” then, by soliciting this

** UNCLE SAM CAN USE
YOUR ABILITY IN SPORTS



America’s
standard. The physical strength of the
people. With stronger bodies will come
stronger minds. More than ever—America is not
afraid. And America is not to be
overlooked. The maximum use of the num-
berless resources of America, the many places of recreation, the
many sources of pleasure, the many centers of

YOU
ARE WRITING THE
PEACE TERMS NOW!



ical vigor and alertness of mind,
our Youth goes forth to master
these weapons of war.

IT'S U



A TRIBUTE TO “COACHED” SPORTS

General MacArthur, America's "number one" soldier today, was keenly interested in athletics while Superintendent at West Point. His famous inscription on the entrance to the West Point Gymnasium, shown to the left, is the subject of our nation-wide campaign for recognition of the wartime value of sports.

Shortly after Douglas MacArthur's assumption of the command at West Point, following the World War, a new and enlarged gymnasium was completed. It was desired to appropriately inscribe the entrance to this building. It was Douglas MacArthur's belief that the inscription should elucidate the great purpose and value of athletics to the Army. He believed that the training of the athletic field, which produces, to a superlative degree, the attributes of fortitude, self-control, resolution, courage, mental agility, and, of course, physical development, is fundamental to an efficient soldiery. He not only composed the inscription which expresses this fundamental concept, but he completely reorganized the athletic system and placed

it on the broad and comprehensive basis which has been followed in that institution ever since.

Wilson Promotes America's Coaches

The importance of sports in Army training is obvious to all who realize the demands of army operations today. But conditioning of men in *every walk* of the war effort is also vital.

America must be *kept* strong—and in that job the experience and skill of America's athletic coaches are of vital importance.

Wilson has promoted and will continue to promote the importance of our coaches to the Physical Fitness Program of our country.

And, as far as available materials permit, we will continue to supply the equipment so essential to the sports and games that are the source of our national strength of body, endurance, fighting spirit and will to win. Wilson Sporting Goods Co., and Wilson Athletic Goods Mfg. Co., Inc., Chicago, New York and other leading cities.

s Wilson TODAY IN SPORTS EQUIPMENT



Suggested New Games

Mass and Duo-Basketball

By George Wills

Longfellow Junior High School, Flint, Mich.

MOST physical education teachers are confronted with large classes. There are probably seventy-five or eighty pupils in a class and perhaps seventh, eighth and ninth grade pupils are in the same class. I have found that mass basketball games eliminate the necessity of idle time. In order to illustrate a diagram is necessary. (See Diagram 3.)

The regular basketball rules are used. Team members are put on their honor, under the supervision of group leaders, in determining penalties. Players on courts 1 and 3 use the same volleyball standard weight upright; 2 and 4 likewise. Winners may change courts after fifteen minutes of play. Seven minute halves.

The purpose of duo-basketball is fundamentally for training and conditioning. The game in itself is similar to basketball, but the speed of the game is very much increased, thereby increasing the efficiency of ball-handling, shooting and dribbling. The rules are very simple. The accompanying diagram of the court will show court procedure. (See Diagram 1.)

Duo-basketball eliminates the team that makes the basket. The length of playing time may be determined by the condition of the players.

Regular basketball rules are used except each team has two baskets. B starts playing for No. 1 basket. A starts playing for Number 3 basket. If B makes the

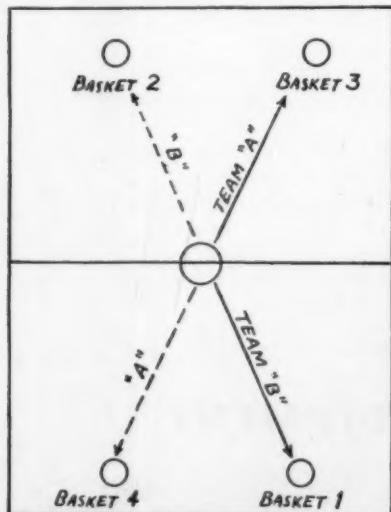


Diagram 1.

basket, B continues to play for No. 2 basket. There is no cessation in the game, unless the ball goes out of bounds or there is an infraction of rules. Team A does likewise. The game begins by a jump ball at the center of the court. Teams change courts at the half.

Grid Ball

By Walf Oglesby

Athletic Director, Willows, California

NEW games so often invented in emergencies fail to appeal to teen-age boys because they lack action and do not demand skill. We of the physical education profession assume that the best games of all time are being played and do little to develop new ones. It is possible to find a following for new sports if the sport has what the boys want. Six-man football will bear this out.

The new game that I am offering is called Grid Ball. It is a combination of

IT was suggested last month that coaches might be interested in working up new games that would be valuable in keeping up interest among high school boys. These games were received in answer to that request.

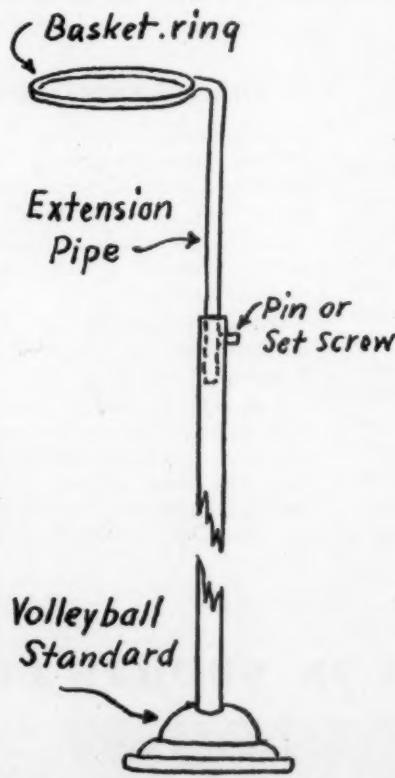


Diagram 2.

basketball, soccer, speedball and football. It may be played with five or more players on a side, on a field as short as forty yards, or as long as one hundred yards.

Playing Rules for Grid Ball

1. Preferably five to fifteen men on a side. One to three men to guard the goal, to keep kicks from going across the goal line or to block passes over the goal. (These men cannot cross mid field.)

2. Start the game with the kick-off from goal line, much like football.

3. Rules in handling the ball. a. Kick just as in soccer. b. Handle the ball only when kicked up to you by another player. c. You can run with ball just as in football, but if touched while running (must be touched with both hands), the ball goes to the other team on the spot. If you stop before the opponent touches you, you maintain the ball and pivot as in basketball until you find a team mate in the clear to pass to.

4. Hints. Lots of passes will help you win. Use teamwork.

5. Scoring. a. Across the goal line by kick, one point. b. Run-over the goal line, four points. c. Pass or kick over the goal line to a team mate counts five points.

6. The team scored on throws the ball

(Continued on page 41)

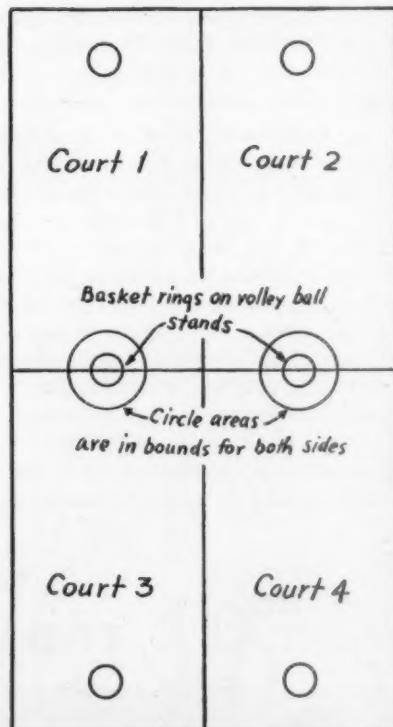


Diagram 3.

TRAINERS JOURNAL

SECOND EDITION

NATIONAL ATHLETIC TRAINERS' ASSOCIATION

JUNE, 1942

No. 10

Official Publication
Of the National Athletic
Trainers Association

Prevention and Care of
Common Baseball Injuries

Charles D. Smith

The Elements of
Athletic Success

William M. Goodish

Treatment of Displaced
Internal Semilunar Cartilage

H. B. Goodell

James A. Maryland, faculty manager and
athletic trainer and student manager and
instructor at Baltimore Polytechnic Institute



THE

TRAINERS JOURNAL SECTION

Official Publication National Athletic Trainers Association

June, 1942

No. 10

Officers National Athletic Trainers Association For 1941-1942

President, Lloyd Stein, University of Minnesota
1st Vice-President, John Kelly, New York University
2nd Vice-President, Henry Schmidt, Santa Clara University
3rd Vice-President, Wilbur Bohm, Washington State College
Executive Secretary and Editor of Trainers Journal, Bill Frey
Office of Publication, Iowa City, Iowa

Election of Our Officers for 1942-1943

THE attendance at the two divisions of our annual meetings, Drake and Penn Relays, was comparatively small so that the voting for the 1942-1943 officers at that time in no way indicated the wishes of our entire membership. Our association is democratic in organization and every senior and junior member is urged to cast his ballot. We are, therefore, mailing ballots to all senior and junior members, who according to our constitution have voting privileges.

You are requested to return these cards immediately.

The following nominations have been received to date. As soon as your ballot arrives check and return.

President

WILBUR BOHM, Washington State College
FRANK WIECHEC, Temple University
LIL DIMMITT, Texas A & M

First Vice President

ROLAND LOGAN, United States Navy
HENRY SCHMIDT, Santa Clara

Second Vice President

TUCKER SMITH, Ohio State
HOWARD WAITE, Pittsburgh

Third Vice President

PERCY QUINLAN, University of North Carolina
Trustees

(Seven men to be elected)

ROLAND LOGAN, U. S. Navy
HENRY SCHMIDT, Santa Clara
RAY ROBERTS, University of Michigan
LON MANN, Purdue University
FRANK WIECHEC, Temple University
HOWARD WAITE, Pittsburgh
LIL DIMMITT, Texas A & M
LLOYD STEIN, U. S. Navy
EDDIE WOJECKI, Louisiana Tech
HARRY EVANS, St. Benedict's College
ROBERT SHELTON, University of Colorado
MIKE STANG, Rutgers

UNDER THE SHOWERS



NOW at Louisiana Tech located at Ruston, Louisiana, Eddie Wojecki held his first position at Howard College starting there in 1931. In 1933 he moved on to Louisiana Tech and has held the head trainer's post ever since. But

Eddie doesn't stop at being trainer; he is also the boxing and gymnastic coach, as well as assistant in football. I know Eddie is a very busy man, because he writes this office only once a year. You visiting trainers will find a welcome sign on the training room door of Louisiana Tech at all times.



A NOTHER boxing coach and trainer combination has been added to our membership rolls in Phil Penston of the United States Coast Guard Academy. Phil is also acting as assistant chairman of the Connecticut Valley Conference as his boss, Lieutenant H. K. McClernon, is very busy working out plans for the new physical conditioning program the Coast Guard will start this summer.



PROBABLY the only brother trainers in the country are Lon Mann of Purdue University and Frank Mann of the University of Kentucky. We gave you a picture of Lon in the February issue of the JOURNAL and now give you his brother Frank. I am told that Frank has now served two generations of athletes at Kentucky. I know that when the two brothers get together many a fine formula is concocted to keep the athletes in there. Of one thing I am sure, Lon Mann's training room at Purdue is probably the most complete and finest in the country.



THE author of the article, The Elements of Athletic Success, William M. Goodish was graduated from North Union High School in Uniontown, Pennsylvania, where he participated in football, basketball and baseball. He continued his baseball playing through the summer of his high school freshman year as shortstop in American Legion baseball. After entering Findlay College, Mr. Goodish continued his interest in the same sports, concentrating on baseball his last year.

Prevention and Care of Common Baseball Injuries

By Charles D. Smith
Athletic Director and Coach, Guilford College

FOR twenty-two years I have been connected with high school and college baseball and many years ago I came to the conclusion that it was better to know how to prevent certain injuries than to try to cure them after they happened. The aim of this article is to help the small high school coach who does not have the equipment which is found in the large schools.

The five most important injuries in baseball that may be prevented to a large extent are: 1. Sore arm; 2. Skin abrasions (Strawberry); 3. Sprained ankle; 4. Bruised hand; 5. Tired legs.

A great majority of sore arms are found among pitchers and infielders in early season practice. Most of the sore arms that pitchers have are due to poor condition of the leg and improper care of the arm. Pitchers should run more and throw less at the beginning of the season. They should run at least a mile every day, in addition to the running that they get during the normal course of practice. A coach should never let a boy pitch over ten minutes to batting practice during the first two weeks of practice. After a pitcher has had his turn on the mound, he should put on his jacket, take his required cuts at the plate, then run two laps around the track, and go to the showers. He should never be allowed to stand around in the outfield during hitting practice, especially when the squad numbers over eighteen players. One reason for this is that he will get cold and the other is that he may be tempted to cut loose a long throw that might put his arm out of commission for the rest of the season. He should remember that he is not an outfielder but a pitcher, and that the throw from the outfield is not natural for him.

Infielders get sore arms by taking infield practice too long on a cold or windy day. There is nothing that puts the strain on the arm as much as throwing against the wind on a cold day. It is far better that they do not take infield practice, if they have to throw against the wind. All teams must take infield practice because ground balls are hard to field, so why not practice infield by having two hitters hit to the infield, one from the left side of the plate and the other from the right and have the fielders lob the balls to the catchers? By this method they can get almost twice as much practice on ground balls as they get, taking infield in the orthodox

way. Then again the boys get the leg drill that will prevent sore arms. The proper supervision of pitchers and infielders as described above will prevent many sore arms. If a member shows up with a sore arm, the best and only sure cure is heat and rest.

All baseball players sooner or later will

Here's a Suggestion, Trainers

OUTSIDE of several of the larger schools, the colleges and other universities are not up to par in their training facilities. Most of these schools have little facilities to handle the care and treatment of injuries sustained in athletic competition, relying upon the care of the doctors. Most of these institutions have student trainers. This is to be commended. These students know little about the undertaking and responsibilities placed upon their shoulders. Most of them are well grounded in the fundamentals of first aid in relation to cuts, bruises, and burns. However, when it comes to tackle shoulders, sprains, taping and other vital work they have not the faintest notion of what they are doing.

A second case occurred just recently. This particular institution did not have a trainer. The coach was everything. I approached him on the subject and I was overcome with his statement. He replied, in kind, that since the school was small and the funds were inadequate they could not afford such attention.

In my survey among the high schools I received a cordial response to the high school movement and did not once receive a negative answer. I was pleased that these schools could see the future possibilities of the trainers' programs. Even the women endorsed the program in connection with women, pointing out the necessity within the present war program.

Placing the state map of Indiana before me, I indicated the name of each college and university in the right place upon the map. Then according to scale I drew circles around each name. Upon another map I placed the names of the high schools coming within the same area of the colleges. All the high schools in the corresponding area of the institutions of higher learning, will be under the care and supervision of the trainers of these institutions. This divides the state into sections or divisions and gives each trainer a responsibility and an active part in the movement. I am of the opinion that this will speed up the program and will secure the co-operation of every educational institution.

Robert E. Fulton,
Franklin College.

get a strawberry, sometimes called a hustle bump. This may be prevented by teaching them the proper way to slide and by requiring all players to wear sliding pads. It is easy to teach sliding in the pit that is used by football players in tackling the dummy, but a coach should be sure that it is not too soft. It is dangerous to use a soft pit, as a boy will get a bad sprain or broken leg if one leg buckles up under him. If no pit is available, a coach should have the players put on old heavy clothing and use the spot around second base. Old football pants are the best for this drill; the boys save their baseball uniforms and the pads give the boys confidence. The cure for a strawberry is to treat it as any other skin abrasion, but I have found that it will heal much faster if the bandage does not touch the wound. A pad similar to a doughnut may be made around the wound, then covered with the gauze bandage, thus preventing the clothing or the bandage from sticking to the wound.

Most sprained ankles in baseball are due to the player not making up his mind whether or not to slide. This decision is hard for some boys, and it takes much patience and sound teaching to get them to make up their minds quickly. Again the sliding practice in the pit is a great help. In the beginning a boy should not be taught to slide two ways; he should master one and he will soon pick up the others. There are many remedies for sprains, but a coach should try to prevent the injury by teaching the boys the proper way to slide.

A bruised hand is the result of catching a hard-thrown ball before the hand gets tough. It is found most frequently among first basemen, but if they are taught to "give" with the ball and twist the wrist, they will not receive injuries. The best cure is to soak the hand in a hot Epsom salt solution and give it rest. During early practices, bruised hands may be avoided by placing a piece of sponge rubber inside the glove.

The last injury to be discussed is called "tired legs," to use the name given it in this section. This injury is found almost entirely among high school and amateur players. Most teams of this type do not travel very far, so they dress at home. They often bind their legs with two rubber bands, one to hold up the stocking and the other to keep the pants in place

around the knees. When a team rides about thirty miles in uniform, some of the boys will lose their spring and complain about being tired; this condition is due to improper circulation. A few years ago I decided to have the baseball pants for my team members made with a draw lace at the bottom and use just one rubber band to hold up the stocking, and I found that in everyday practice the boys had more pep. First, I must make a confession that

I experimented with three boys, when I was still coaching in high school, by having them on one trip fix up their pants and stockings with two rubber bands and on the next trip let the pants hang loose around the bottom. All three told me there was no comparison in the feeling of the legs. This convinced me that it could hurt a boy in practice at home, so I have had the pants made with draw laces since. The lace will not get any tighter, while

the band will. The first lesson we give a new player at Guilford College is the proper way to put on a uniform. This instruction will not only prevent injuries, but will help the morale of the squad.

If this article will help one boy prevent an injury, it has served the purpose, because an old timer like me believes the best method of training is to prevent the injury, and to prevent it, you must remove the cause.

Taping for Acromioclavicular (Football Shoulder) Separation

By Bill Frey

High School Trainers Lesson No. 10

pictures to show that it has happened in all three ways. As just suggested, due to the way in which the accident happens, it is most common in football but has been detected in track, baseball and basketball.

Although it is not so painful the first day, it certainly becomes very painful twenty-four hours later. In many cases the athlete is able to complete the game in which the accident occurs and to feel fairly well that night. This is due to lack of swelling immediately. Sometimes it may be noted that the shoulder that has been injured has a drooped look. After deciding the exact nature of the injury, the trainer will find that the greatest relief will be obtained by taping the arm and shoulder as shown in the accompanying illustrations.

Note in Illustration 1 that the first piece of tape is started low on the inside of the arm, the arm being raised slightly above, and higher than, the other shoulder. Using two-inch tape, pull it up over the shoulder and across the lower neck line attaching it to the opposite shoulder. Use at least four strips of tape crossing one over the other.

In the same illustration you will note that we have now started the cross tapes, crossing them from the front over the shoulder and attaching them below the shoulder blade on the back as shown in Illustration 2. Make sure that you are pulling the tape downward after you start to cross the peak of the shoulder. This tends to hold the disturbed joint in position.

Illustrations 3 and 4 show the tapes (first and second sets) from a different angle. The trainer should tie a cuff over the tape and around the arm when his taping is finished. It is also advisable to have the arm put in a sling for a few

days to take away any downward pressure. After the fourth day, heat and massage are the best treatment.

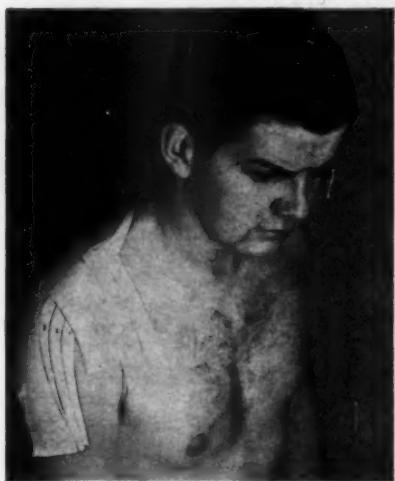


Illustration 1.



Illustration 2.



Illustration 3.



Illustration 4.

The Elements of Athletic Success

By William M. Goodish
Athletic Trainer, Findlay College, Findlay, Ohio

THE six elements that go to make a successful athlete are, as I see them, co-ordination, speed, endurance, strength, intelligence and spirit.

Co-ordination

Co-ordination is by all means the most important consideration in any study of proficiency in sports and athletics. It is the quality which enables the individual to integrate all the powers and capacities of his whole organism into an effective execution of the act in which he is engaged. I would say that it is the basis of all skill in every kind of complex physical activity. Training for skill is a matter of training for co-ordination. Muscles do not have the power of guiding themselves, but are guided solely by the nervous system. We develop them only by practice and training.

Speed

In sports and athletics speed is commonly thought of in terms of locomotion, ability to move quickly from one point to another. It deals with all the movements of every kind, takes place as a result of the contraction or shortening of muscles. The nervous system plays an important role in speed.

Speed displayed in getting into action depends upon three considerations: 1. The time required for the stimulus of the sight of the ball, or the blow starting, or the sound of the gun, to reach the brain. 2. Plus the time required for the brain to relay the impulse through the proper nerve fibers to the proper muscles. 3. Plus the time required for the muscles to get into action after receiving the impulse.

This combined period of time is known as the reaction time. It is apparent to any observer that reaction time varies with individuals. The fast or speedy individual then is one whose reaction time is short. The person with fine co-ordination acts more quickly than the unskilled person. The highly trained and conditioned athlete reacts more quickly than he does when he is out of condition. The individual who is relaxed responds more quickly than one who is tense. The athlete is faster when keyed up than when in a normal condition.

On the basis of these observations, we must build our theory and practice of training for speed. In this first place good form and co-ordination, plus conditioning, improve speed in the performance.

Endurance

Obviously endurance is a very important consideration in certain forms of sports such as football, tournament tennis, running at distances over a hundred yards, boxing, wrestling and swimming.

Varying types of endurance are required according to the character of the sport. This whole matter of endurance can best be understood by making some study of fatigue, for, in every instance, it is fatigue in some form that sets the limit to endurance. Fatigue, in the ordinary sense of the word, is a condition brought about as a result of muscular activity and this prevents the human mechanism, or some part of it, from functioning effectively until the condition is removed. The type of fatigue which afflicts the sprinter is commonly due to failure to rid his system of the waste products of the combustion going on in his muscles, and to the process of eliminating the carbon dioxide—the main product of combustion.

Another cause of exhaustion is a shortage of oxygen in the working muscles. Physiologists tell us that a muscle can work for a brief time without any oxygen at all. This is due to the fact that the actual contraction of the muscle does not involve oxidation. In order, however, to restore the muscle used in the contraction to a condition in which the chemical materials may continue to be used, oxidation is necessary.

Having given this explanation of the causes of fatigue, I shall call attention to the fact that the heart is by all means the most important organ in relation to endurance. No one can possess great endurance who does not have a strong and efficient heart. The heart itself is a muscle and its power and endurance may be developed by proper training.

There is one other manifestation of fatigue which needs some explanation. Staleness is a form of chronic fatigue brought on by long continued strenuous participation in sports or athletics. It is marked by feelings of weariness, irritability, loss of weight, inability to concentrate and other symptoms. Mental staleness comes about not through overexertion, but because of too long concentration. Physical staleness may be brought on, if work is overly long and strenuous, especially in football. The best remedy for staleness is a few days rest of mind and body.

Strength

In relation to sports and athletics, it

seems pertinent to remark that sheer physical power plays a minor role in most of these activities. No professional strong man has ever made any outstanding record in any sport or athletic event. As a matter of fact, excessive development of huge muscles and tremendous strength may reduce one's efficiency in activities requiring speed and co-ordination.

Strength is a matter of leverage and the power which muscles are able to exert as they contract, or shorten. As a rule, the voluntary muscles are attached at one end to a relatively immovable part of the bony framework of the body. At the other end the muscle is attached to a movable part. When the muscle contracts, the movable part to which it is attached is set in motion in one direction or another, according to the direction of the pull. The force which the movable part can exert will depend upon the power of the pull and upon the leverage involved. Other things being equal the shorter limbed individual will exhibit more strength, because he has the advantage of a more favorable leverage, whereas the long limbed individual will have the advantage of a greater range of movement.

Intelligence

Intelligence, sometimes defined as the capacity of the individual to adjust himself successfully to his environment, or to adjust the environment to his needs, has some place in any activity of the athlete, more in the case of the quarterback than in the guard, more in the tennis player than in the swimmer, but an important place always. The sprinter may not require great intelligence in the actual competition, but his intelligence will be of assistance in learning the form, in conditioning himself for the event, or even in placing in his heat.

Intelligence is so much a matter of heredity that there is little to say about its training and development.

Spirit

It is universally recognized that participants in sports and athletics differ widely in the attitudes they display. It is generally agreed that these differences in attitudes are significant in relation to progress and proficiency in these activities. We all admire the individual for whom difficulty or defeat is only a challenge to greater effort, who carries the battle to the opponent with all his waning strength, and whose head is never down.

All such manifestations of attitude or tendencies I classify as spirit and whatever their character recognize them as significant in sports.

The spirit which the athlete displays also depends to a great extent upon his general physical condition at the moment. The trained and conditioned athlete will

always display more spirit than he will when in an untrained and flabby condition. The athlete's spirit is, therefore, an indicator of his condition.

Treatment of Displaced Internal Semilunar Cartilage

By H. B. Goodell

Athletic Director, South Dakota State School of Mines

MANY articles have been written relative to the reduction of a semilunar displacement. Many methods used are supposedly satisfactory; however, there is a slight variance from printed methods known to me which I have found to be, in practice, a vast improvement over the former.

For a moment, let us review the anatomy of the knee joint and in this way designate a starting point for our discussion. The condyles of the femur articulate with the expanded top of the tibia. Note the construction of the two semilunar cartilages and the method by which they are attached to the surrounding structures. Note particularly that the medial internal meniscus is closely attached along its outer border to the internal lateral ligament. Observe the two crucial ligaments which are frequently torn in knee injury. Remember synovial membrane lines the inner surface of the capsule of the joint. In cases of injury to the knee joint, the synovia is irritated and the fluid output is very much increased, thus distending the joint. Where there is constant repetition of the injury the synovial membrane will be hypertrophied. Then there are the powerful capsule and ligaments which incase the knee joint.

Recognition and symptoms of a displaced cartilage of the knee are easily recognized. When a cartilage is displaced, the injured person goes down as if his feet were shot from under him. The knee joint will be found locked when an attempt is made to extend the leg. The locked knee will resist extension which will be accompanied by severe pain to the patient. He will also feel as if something is wedged in between the two articulating surfaces. Swelling is rapid and upon palpitation there will be extreme tenderness over the internal ligament in cases of internal semilunar displacement. Of course a like injury can occur to the external semilunar cartilage, but it is very seldom in athletics.

I have X-rays taken of all severe knee injuries to eliminate any possibility of damage to the heads of the femur or tibia. Of course the only way to observe the cartilage by X-ray is the method of first

filling the joint with air. This cannot be done if any degree of acute swelling is present which always accompanies semilunar displacements the first time.

A partial reduction is the same as no reduction; the misplaced cartilage still traumatizes the joint. The patient generally knows when the dislodgement has taken place, particularly if it is a chronic knee—"trick knee." What may be thought to be a successful reduction may not be a normal replacement. Relief is present when the wedged cartilage no longer locks the joint nor causes tension to be felt when the leg is extended. No doubt in some cases the cartilage does regain its normal place; this has been proved by a complete restoration to normal. If the cartilage does find its normal position, the surfaces will still be raw, and they will unite and possibly become normal if immobilization is maintained long enough for proper healing to take place. There is the type in which the cartilage is broken, sometimes known as "bucket handle." This condition will never heal normally, and surgery is the only answer to permanent relief.

My method of reduction is presented in the following steps. First, lay the patient flat on his back, with the individual who is administering the treatment at the side of the locked knee. Second, flex the knee and the hip toward the chest to the maximum extent. Third, with the inside hand, grip the heel of the injured leg, relax the tension slightly at the knee joint, and then rotate the tibia on the femur by grasping the os calis more firmly and rotating first externally then internally several times, with maximum rotation externally. Many times the reduction will take place at this point. If reduction is not accomplished at this point, take the outside hand, pass it under the knee joint, put the elbow joint at popliteal space, grasp the upper tibia with open hand, and force the lower upper arm hard against the lower femur. This gives strong-pressure action in opening the knee joint on the internal side. At this point, use the inside hand on the os calis, and abduct and externally rotate the tibia from the femur. As the leg is extended, keep maximum tension throughout the manipula-

tion. Do not use added force as complete extension is reached. If reduction has not taken place by the time the locking point has been reached, force will not do it.

A single try may be sufficient to effect the reduction. If not, and if the operator knows what he is doing, he should try, try again. Perseverance will succeed. There are cases where static contraction is so great, in spite of the patient's attempt to relax, that proper relaxation is impossible. In these cases, a general anesthetic is necessary. I prefer the venous injection method for these cases.

The treatment following reduction is of greater importance in securing permanent recovery than is generally assumed. One should always strive for permanent recovery. That is the reason for which I stated earlier that in all initial cases of semilunar displacement, the treatment should be administered as if a normal reduction had been accomplished.

Immediately upon reduction, put the patient to bed and place the injured limb in a plaster of paris trough (half splint) to assure immobilization and yet to leave the knee joint area exposed for treatment. Upon immobilization, apply cold applications for four hours. I know some contest the long period of cold applications, but I am convinced from experience it pays dividends. Dispense with all treatment for twenty-four hours. Start radiant heat treatments three times a day for forty minutes for the next three days, and accompany this treatment with mild massage above and below the knee once daily. During this time, the patient is in bed and the knee kept immobilized. At the end of the sixth day, put on full cast and permit the patient to be about on crutches. Leave the cast on for two weeks during which time sinusoidal treatments should be given daily.

Upon removal of the cast, the joint will be found in an ankylosis state to a more or less degree, and the muscles above and below the joint will be found to be in an atrophic condition. The customary treatment for the rejuvenation of the joint is passive exercise, diathermy treatment, and massage, which all progress to active exercise. General therapy must be given un-

til the knee has regained normal strength and function. This time element varies.

This time and effort are spent on a condition which is more or less an unknown, and if the reduction was not a normal replacement the result will be a permanent loose cartilage. However, if the percentage of complete restorations to normal is only one percent of all initial cartilage cases, the time and effort were well

worth while and cannot be measured as far as the patient is concerned in time, effort, or monetary substance.

My experience with five cases when using this treatment has resulted in normal knees for two of the five. To me, this is very satisfactory, considering that by other methods I never had a complete restoration to normal in ten years of practice.

The High School Trainers Plan

THE National Athletic Trainers Association will continue to sponsor the High School Trainers Plan next year. So many inquiries have come in through this past year regarding the plan that we are again listing the important requirements.

The Coaches Responsibility

1. The coach will select four boys, one from each of the four high school classes. It may be suggested here that a conference with the instructor of the hygiene classes will help in the selection of boys who have shown a special interest in this study.

2. Coaches should provide their trainers with a copy of the Trainers Journal and instruct them to keep the issues throughout their high school years, four, three, two and one as the case may be. The lessons will be continuous and progressive throughout the four-year course. Naturally this year, all student trainers will get the same material, but as the years pass, the lessons will progress.

3. The coach should explain to the boys whom he selects that they are to enter the course as upon any study course, to learn and to apply their knowledge in a practical way. By the time the freshmen trainers have become senior trainers, a coach will have helpful trainer assistants and will have been relieved of many of his arduous training duties.

The Student Trainers Program

1. The training lessons will be taken from the pages of the Trainers Journal and will be studied under the direction of the team medical supervisor or in consultation with him.

2. The course will include diet; exercises; protective gear for ankles, knees, shoulders, hips, wrists, etc.; all types of bandaging; body structure; treatment of injuries; hydro-therapy, electro-therapy, etc. These subjects will not necessarily be in the order named but in an order designed to sustain the interest of student trainers.

3. Many coaches now have managers who assist in the weighing in and out of the athletes. This duty may easily be assigned to student trainers.

4. The student trainers' field is comprehensive. They should (a) examine the records of the athletes made by the examining physician at the beginning of the training period; (b) Have a knowledge of taping, bandaging, etc.; (c) Inspect the equipment and the proper fitting of it; (d) Keep continuous records as to the weight and general physical condition of the athletes; (e) Know about emergency care when a physician is not available; (f) Know about skin abrasions, blisters, boils, etc. and report them at once; (g) Recognize ligament and muscle injuries; (h) Recognize the seriousness of injuries that require the immediate services of a physician; (i) Have a knowledge of diet.

5. Student trainers may be most helpful to the coach in assisting with the proper exercises for each sport. Athletes are hardened by systematic exercises which are an exact science and vary with the sport.

6. Student trainers may assist in building protective equipment. A great deal of money may be invested in modern up-to-date equipment and training room fixtures. Where the funds are limited, student trainers may build protective and preventative equipment out of odds and ends found around the average locker room.

7. Most important of all responsibilities that student trainers should assume is that of an absolutely clean training room. There is no excuse for an insanitary training room which is dedicated to the prevention of ills.

8. Student trainers should familiarize themselves with the equipment and supplies needed in the training room. The listing of supplies for the model training room for three budgets in the September issue may be studied with interest.

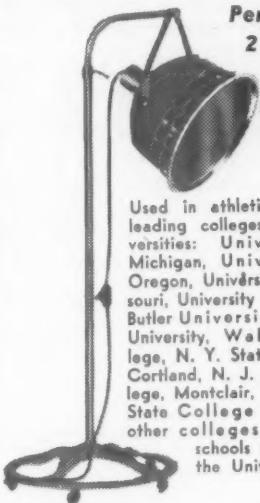
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Why America Will Win the War

By Dr. B. Everard Blanchard
Director of Physical Education, Fort Myers,
Florida, High School

POSSIBLY you have known of a great football or basketball team which won a sectional or a state championship. If you have, you will also recall that the coach shared in the victory campaign along with the players. Minus the coach, the team could not have won its games.

From a comparative standpoint, Hitler assumed this coaching role over a decade ago and is presently challenging the American way of life. His coaching experience has been confined to the "Youth Movement." He has employed every known strategy to mold the German youth to the basic ideas of blood and soil, conquest and destruction. The "Youth Movement" in Germany has been cloaked in a military guise stressing the physical aspects which are strong, receptive, and easily motivated in youth by proper instruction. Ceaseless hours have been spent in eradicating the mental hazards which usually accompany the education of youth. Prior to 1914, the Volksschule, or school for the common people in Germany, was attended by 92 per cent of the population and the purpose was to prepare the children of the common people to be good peasants and tradesmen. Today in place of classroom instruction, the bulk of Prussia's education in the Volksschule is taking place in the great out-of-doors, in gymnasiums, in the fields, and in the waters surrounding the countryside. Emotionally, the idea is sound, but from a practical viewpoint, it lacks symmetry in that the muscular type is not absolutely infinite. Brute strength might be desirable in lifting a piano or pushing a tank from a muddy rut in the battlefield, but, the mere pressing of a button by a midget has lifted gigantic trains from one track to another and moved mountains that have stood in the pathway of progress.

Minus the pomp and ceremony so characteristic of the Nazi regime, America since its early colonization, has been building youth in the democratic manner. Without fear of contradiction, I believe that I can truthfully state, that the coach enjoys a rare privilege denied his colleagues. Not even the clergyman, teacher, or parent shares the real freedom of educating youth. The coach teaches an activity that most children enjoy. No compulsion is necessary to encourage a boy to play football, or a girl to go swimming. There is no doubt that the average teacher in general education contributed a great deal to the education of youth, but, when last honors are decided upon, the coach occupies the warmest place in the heart of every boy and girl. His teaching speaks their language.



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Whereas the bulk of our coaching profession generally go unheralded year after year, just now every man is considered tremendously important. Every man in the coaching ranks is at the present engaged in national defense work, whether it be in the public schools, or in the armed forces. For an individual whose worth was seriously questioned less than ten years ago, but who now occupies a pedestal-like position, it is indeed credible! If the average teacher in general education could attain half the amount of co-operation from their students in their classwork, as the coach does on the athletic field, or in the gymnasium, we could burn our rating scales, junk our intelligent tests and proceed with an educational system in America that might even eliminate the need for Phi Beta Kappa. If the classroom teacher could develop or at least touch off the innate potentialities possessed by each student with reference to self-reliance, courage, teamwork, fair play, and self-respect which are the foundations

of, and hope for, democracy, our administrative and teaching problems would slowly tend to minimize themselves, but on the contrary, a casual visit to the average public school discloses the instructor conducting a so-many-a-day page campaign with the textbook, resorting to the lecture method, and winding up the class period with the question and answer technique.

Physical education has changed its status as remarkably as the chameleon. Not so long ago it portrayed characteristics similar to the Turnverein movement, or physical culture goal; at another stage, it was explained that physical education was really education through the physical objectives; later we passed through a period of mass athletics, or intramural activities for the benefit of all students; at another period, measurement occupied the physical educators in an attempt to evaluate what had been done in the field thus far and what would need to be accomplished for the future; at the present writ-

ing, we are in the throes of a physical fitness period.

As one may see, the coach has had to distribute his abilities in many fields of endeavor. His real efforts and primary goal have not been understood by the laity and in some cases have been judged poorly by his superiors. Now that the war has stressed the need of eliminating our axis opponents, we are gradually coming to realize the significance of the physical education program and the many men and women who direct and administer it.

There is something fine and splendid about our youth today. They have and can take their coaching. They have been onlookers in the classroom, as well as active participants on the athletic field. If our nation depends on the American youth of today, we can thank the thousands of young men who have unselfishly and wholeheartedly given of their time and effort to provide the preliminary and arduous training for our American youth who WILL succeed.

The Teaching of Rhythm to Distance Runners

(Continued from page 21)

The value of speed exercises in training for distance running would appear to lie in the fact that the metabolic rate can be increased to a point equal to, or above, that resulting from a distance run in a short time, and the recovery will be so rapid as to allow for its being engaged in more than once prior to a daily workout or race. Such an exercise can prove of value in the warm-up procedure where it is desired to get the heart and lungs working at an increased rate, yet at the same time not fatiguing the muscles to a point where a long rest would be necessary before their efficiency was back to normal. It is important, however, to stress the necessity of slow but gradually increased jogging, preceding any speed exercise. Thus in the so-called wind sprints the runner starts out at a slow jog, gradually increasing the speed until he reaches his top speed between 300-330 yards from the start, then he slows down gradually, almost walking, at the 660 mark, then he gradually increases his speed again, repeating the first procedure.

In conclusion it would appear that exercises of speed are of value in training for distance running only as a part of the warm-up procedure.

In speed exercises such as those involved in wind sprints where maximum speed is attained gradually rather than immediately, the heart and lungs are not thrown into maximum action in an attempt to meet the muscular demands. The gradual increase in speed over some 200 yards allows for a gradual increase in heart and lung action. Because the maximal action of heart and lungs has been attained gradually, it is possible to initiate the

above-mentioned breathing rhythm. This rhythm would tend to act as a check upon the runner, preventing him from going at full speed the instant he steps on the track, and further, act as a regulator in gradually decreasing the pace after top speed had been attained.

Pace Defined

The term pace, or more specifically, pace judgment, refers to the runner's awareness of the approximate rate of motion at which he is running. Pace is generally not held to be a factor in speed exercises, inasmuch as the runner is supposedly going at his maximum rate and will continue this rate for the full distance. Pace is, therefore, a term applied to a rate of motion in running which can be continued for a sufficient period of time to warrant an awareness, on the part of the runner, as to what this rate is in terms of minutes and seconds and how best to be able to continue that rate for a given distance.

If we time as the criterion for determining the efficiency of muscular effort in distance running, it may be said that the fastest time records for a two-mile run indicate that the muscular effort utilized in attaining those records was efficiently expended.

The record performances of such good distance runners as Nurmi of Finland and Greg Rice of the United States show that the pace carried throughout the entire distance was maintained at a steady rate. The world's record performance of Greg Rice in which he established a time of 8 minutes 53.4 seconds for two miles was one in which each quarter was run in approximately the same time. The maintenance of a steady pace for the entire distance may be considered to be a factor in making such a noteworthy performance possible. Thus, energy expended through the muscular effort involved in distance running, and occurring at a steady rate, is more efficient than when expended at an unsteady rate.

Training for endurance lays the foundation for training in pace judgment. Conversely, the ability of a distance runner to judge pace indicates that he is well advanced in his endurance training. The runner capable of world-record performances may judge his degree of training by performances in which he has consistently bettered his time. Any distance runner may judge his degree of training in using time as the criterion, by a careful record of each race and the average time for each quarter mile of the total distance. If he consistently improves, that is if he is able, in running a two-mile race, to make each quarter approximately equal in time, and the total results show a faster time for the full distance, he may conclude that his training program is attaining its objective—muscular efficiency in distance running.

Any muscular effort suggests the need of maintaining the acid-base balance of the



body. Breathlessness, a condition resulting from maximum muscular effort, as in sprinting, represents a disturbance of this acid-base equilibrium. This theory was advanced by MacKeith, Pembrey and others in a study to determine the nature of second wind. They further indicate that the relief brought about by so-called "second wind" is a result of the various adjustments toward equilibrium. "These adjustments are effected chiefly by respiration, circulation, and excretion by the kidneys and skin."¹

Breathlessness appears to be the outstanding symptom which precedes the onset of "second wind." The sprinter, at the end of a 100-yard dash, exhibits this symptom of breathlessness; his adjustment, however, comes only when the exercise is finished. The relief from this feeling of breathlessness which he gets after cessation of the exercise may be considered to be similar to the relief a distance runner gets with the onset of second wind. The distance runner can not cease running to get the relief. Consequently, he must, through training, condition the organs (heart and lungs especially) to make this adjustment without cessation of, or even an appreciable slowing down of, the pace at which he is running. This suggests the need of including in the training program workouts in which the distance run is equal to, or

slightly over, that distance at which he expects to compete or race. The time at which he runs these practice distances should also approach the time he desires to make in any given race.

The value derived from training, when that training takes the form of an exercise of endurance, is demonstrated when that same exercise is performed more efficiently. By initiating this breathing rhythm early in the training season, continued practice should establish it as a factor in making for efficiency of the muscular effort involved in distance running. Maintaining such a breathing rhythm calls for a certain amount of control over breathing; as this is practiced, it tends to become as automatic for distance running as uncontrolled breathing rhythm is for walking or resting.

This breathing rhythm is not evident to the runner, as he reaches the state of breathlessness prior to the onset of second wind. It has been my personal experience over a period of six years of competitive distance running, to know that, with the onset of second wind and its accompanying relief due to respiratory and circulatory adjustments which result in easier breathing and a feeling of renewed vigor in the muscles, the rhythm of breathing, now having become easy, follows the pattern established at the time it was initiated in

the warm-up procedure and in the beginning of the race. From this it would appear that there is merely a substitution of breathing rhythm, involuntary for voluntary. "Therefore, you find that the building up of a series of rhythmic reflexes, which contain no unnecessary motions, is a potent factor in preventing fatigue."¹

The Nature of the Rhythm

The breathing rhythm which is suggested as being a basic factor in training for distance running is initiated by inhaling on the first two steps and exhaling on the next two steps.

Application of Rhythm

Such a rhythm may be applied to any form of locomotion (running or walking) in which the pace is not so rapid as to require a cessation of the exercise with the onset of breathlessness.

Method of Teaching the Rhythm

1. It is suggested that the coach discuss the importance of rhythm with his dis-

¹ Schneider, *Physiology of Muscular Activity*, W. B. Saunders Co., Phila., Pa., 1933, p. 107.



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tance runners. At this time a careful explanation of how such a breathing rhythm functions, its limitations, etc., should be stressed.

2. On the track, the first procedure would be to walk around the track at a moderate pace utilizing this breathing rhythm. It is also suggested that one may select a popular song having a rhythm which would correspond to 1-2-3-4 count, the rhythm of this breathing. Next it is suggested that the runners count out this breathing in the following manner: Inhale, count 1-2, exhale, count 3-4.

3. As a supplementary check, the arms may be utilized in counting out the rhythm, thus the athlete may become aware of a close co-ordination between the arms, legs, and breathing functions.

4. Some of the runners no doubt would be able to establish this rhythm before others. In such a case, those unsuccessful in early attempts to apply this rhythm while running, will find it helpful to run with those who have been successful in applying the principle.

5. Another method of teaching this rhythm is to call attention to the sound of the locomotive engine as it starts out and gradually picks up speed. This choo-choo, choo-choo, choo-choo may be substituted for the 1-2-3-4 count. The advantage of using the locomotive sound is derived from the factor that as the engine picks up speed the interval between each choo-choo becomes less perceptible. Just as in running, as the state of breathlessness is

approached, the interval between each breath becomes less perceptible.

Conclusions

The factor of rhythm, as demonstrated in breathing by inhaling on the first two steps and exhaling on the next two steps provides a medium through which a series of rhythmic breathing reflexes applicable to distance running may be established through training.

Recommendations

It is recommended that a complete training program for distance runners, in which training for rhythm is included, be set up on the basis of this study.

Intensified Physical Fitness Programs

(Continued from page 11)

aged to participate in the intramural sports program which continues its operation. Fraternities and independent organizations already participating and representing 44 per cent of the male enrollment on the campus are competing in the more than twenty-five different team and individual events sponsored annually by the intramural department.

Students who are members of the various varsity and freshmen intercollegiate squads are transferred to the supervision of the coach and are not required to attend physical fitness classes during their respective seasons.

The participation of the coaching staff in the program has unquestionably contributed to the morale of the students and to the success of the program and has fostered wholesome relationships in the intercollegiate athletic and physical education programs.

The Measurement Program the Initial Semester for the Requirement

Tests were employed the initial semester of the required program to show the individual student and the administration the results of the program. The tests also were used to motivate instruction.

Both squad and mass systems were used in securing testing data. The testing was divided into two parts. The first half included the Brace Motor Ability (Iowa Revision), the Burpee Test, and the push-ups (floor). The second half included the pull-ups (chins), sit-ups (body lever), standing broad jump, and the vertical jump (jump and reach). More endurance measures will be included in the measurement program. The two-mile walk will test hiking condition and the "drop-off" between the times for the dashes of 50 yards and 440 yards will indicate endurance.

The gains in physical fitness were de-

termined for the initial semester, January, 1942. Due to administrative difficulties classes could not be started for three weeks after the beginning of the semester. Organization for testing had to wait until March 10th. The second or achievement testing was delayed as long as was feasible to show the maximum gains possible. The second testing was administered beginning April 23. The present gains are attributable to differences brought about in six weeks time. Much gains made prior to March 10 are not revealed in this study.

1. Brace Motor Ability (Iowa Revision) gains of 11% with a C. R. of 9.8 were in a test of 10 motor stunts supposedly innate. This gain is quite commendable.

2. Burpee test gains of 12.03% (C. R.=10.6) are in abdominal and leg agility, an area neglected in college men. Indiana performances are inferior in this event.

3. General Motor Quotient is purportedly a static measure of Motor Capacity relative to age-height-and-weight in weighted combination. In light of these facts the gain of 5.36% (C. R.=10.74) is extremely satisfying.

Features of the Required Physical Fitness Program

1. All undergraduate students are reached for eight semesters.

2. A daily hour period is required (5 regularly scheduled class periods of 50 minutes each).

3. Eight additional hours are added to the original requirements for graduation.

4. Completion of the physical fitness requirement is essential for graduation.

5. The program serves both the war effort and the need for improving the university students' general health

standard.

6. The program in, and of itself, is not military in nature other than the significant relationship which exists between good physical fitness and military efforts.

7. The program has a balanced aim and a balanced group of objectives emphasizing mental, emotional, and physical fitness.

8. The daily program is varied and vigorous.

9. All periods are supervised by a departmental staff member.

10. Classes approximate normal class size.

11. Most instruction is secured at a minimum cost by using senior majors in health and physical education.

12. Senior majors receive a very valuable educational experience under supervision and also receive aid in meeting their financial problems.

13. Clean towels are provided after each activity period.

14. Measurement serves the program rather than that the program serves it.

15. The program functions as an acknowledged valuable phase of the university's war service plan.

Some Resultant Conclusions After the Initial Semester of the Required Physical Fitness Program for Men

The physical fitness program in its initial semester demonstrated that:

1. There are ways to minimize problems arising from priorities and costs of certain necessary materials.

2. Students when given a vigorous and varied daily program will favorably respond. Contrary to popular opinion, students respond well to body conditioning type of program when alternated with recreational periods.

3. Need and interest are closely allied with most students and are manifested

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by the type of response.

4. Appreciable and statistically significant gains in measures of physical fitness can be secured in a relatively short period of time with college-age students.

5. Most college men are medically sound enough to participate with beneficial results in an unrestricted activity classification.

6. Injuries can be kept at a minimum in a vigorous daily program by adhering closely to the principles of progression and safety.

7. The existing national emergency is a great motivating force in the physical fitness requirement.

8. Definite but fair and impartial rules, regulations and precautions are necessary for the success of a program.

9. Constant and continuous supervision is necessary when using inexperienced and rapidly changing personnel.

10. Administrative responsibilities must be definitely defined and if delegated done in an official manner and made known to all persons directly involved.

11. Co-operative finding, sharing, interpreting, and integrating of policies insure better application of those policies; in fact are essential for their effective application.

12. Schools will find it difficult, if not impossible, to show the ideal approach to the varied and manifold problems of organizing and administering a daily requirement for eight semesters for all men students with meager staff and facilities.

13. Favorable publicity is a vital factor in student response.

14. Adequate control through supervision may be secured with senior majors used as student instructors.

15. Basket systems not of serve-self type can be satisfactorily used with student help under supervision.

16. Master key combination locks will minimize lock troubles.

17. Antiseptic mopping at frequent intervals (at least daily) will help to minimize foot infections.

18. Announced hygiene inspectors are necessary to promote cleanliness of uniform.

19. Small representative committees of groups involved are necessary in making fair and workable decisions in a minimum of time. These in turn must be held responsible for their recommendations.

20. A physical fitness program to be administered effectively needs the whole-hearted and sympathetic co-operation of the department of health service.

21. Policy forming and co-ordination are first an interdepartmental and general administrative problem and then an intradepartmental and administrative responsibility.

22. An adequate program of testing can be an integral part of the activity, consume relatively little time, and can be justified in terms of the needs and re-



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sults discovered and the motivation provided for both the individual student and the administration.

23. Student election of activity would lessen the possible criticism of a few that the program is on a regimental basis, the evils of which may in a measure be avoided or met.

24. A physical fitness program once acknowledged as an essential phase of a university's curricula needs and should merit the respect and co-operation of the entire faculty.

25. That physical fitness programs as an essential phase of education in times of peace would make less necessary and less difficult the needed intensification of programs in times of war.

The goal of physical fitness is reached over the highway of sports, physical activity and recreation, which develop alertness, endurance, and confidence, and build morale. Team work and co-ordination are great assets in war and peace. Idle hours used constructively in physical fitness can pay great dividends in health and happiness.

University of Michigan

RECENT approval by the Board of Regents of the University of Michigan of a carefully contemplated physical hardening program for its male students constitutes assurance that all men of the Wolverine institution are going to be well prepared physically to withstand whatever trials the future may hold.

The university puts its new conditioning program into effect with the beginning of its third semester June 15. From that day on all male students who either are registered under the Selective Service Act or are enrolled in special enlistment programs of the army, navy or marine corps will spend four and one-half hours each week in planned physical exercise.

To this end the university will require these students to attend three physical education sessions a week, each of an hour and a half duration. The first forty-five minutes of each class will be featured by mass athletic activity while in the second half of the period competitive individual athletics will be stressed.

The mass participation phase of the program will be opened in every instance by a 15-minute calisthenic drill. The following twenty-five minutes will be devoted to such contests as relays, mass combat, rough and tumble drills and obstacle racing. Five minutes then will be allowed for transition to classes of instruction in individual sports which will occupy the remaining forty-five minutes of every period.

In groups of fifty, students then will be instructed in boxing, wrestling, gymnastics and track. Four weeks will be spent

on each of these sports and, in addition, every student enrolled in the program must pass the accepted naval swimming test before completing the course. This consists of having to swim at least 100 yards, remaining afloat at least ten minutes and taking off one's clothes while in the water.

All those unable to pass this test when starting the course will be given special instruction until they are able to do so.

During the first week of each semester the mass participation phase of the program will be given over largely to testing students for speed, strength, skill and endurance. Similar tests of measurement will be used at the end of a semester to determine individual results of the course and to motivate future instruction. It is believed that appreciable and statistically significant gains in measures of physical fitness can be obtained in this relatively short period of sixteen weeks with college-age students through such a program as this.

In addition to the regular athletic instruction and direction which will be given students in the competitive phase of the program, Red Cross methods of transporting injured persons and the simpler and unhazardous forms of judo also will receive considerable attention. In the main, the program will follow the physical training pattern adopted by the Bureau of Aeronautics of the United States Navy for the pilot training divisions it has established at four university bases. In all cases activity will be progressive in nature, advancing from the elemental stages to advanced hardening processes as those benefiting show the proper development.

Members of Michigan's Varsity coaching and physical education staffs will direct the activities of the hardening program which will be in constant operation from 10:15 A.M. until 6:15 P.M. six days a week. The personnel of Michigan teams in competition with outside athletic units will be taken from these hardening classes and even though these men then will be required to report for practice every day, they also will be given some of the hardening drills, such as calisthenics, which will be used in the physical education program. Members of these teams will report back to the hardening classes when their sports are concluded and thus will be in year-round training.

For a period of more than forty years, Michigan's only physical education requirement has been that freshmen report for such training one hour each week. The departure from this policy has come about, of course, as a result of the war and now all men enrolled in the university, except those who have not yet registered under selective service or who are physically unable to exercise in any way, must enroll in the hardening course. Freshmen who are too young for the draft are re-

quired to take their regular physical education work, although, if they wish, they may elect the new hardening course in its place and it is anticipated that most of them will deem this to be the wiser policy.

All students enrolled in the course will be classified according to the results of medical examinations and their activities will be governed by the resultant grouping. Those placed in restricted groups will be transferred to general groups when their health rating is changed by the proper authorities. It is estimated that approximately six per cent of those enrolled will need corrective work and will be placed in restricted classifications. About half, it is thought, can later be moved into the general or unrestricted classification.

A remedial program for those in the restricted groups has been planned to provide activity for otherwise normal students who are temporarily indisposed and to provide activity as well for students who are medically or physically unable to meet the regular hardening requirements. No matter what the grouping, all students will be required to take swimming instruction until they can pass the test already mentioned. The remedial program also will include individual activity, modified individual activity and recreational therapy, the actual work to be given depending upon the student's condition.

In regard to this new Michigan physical training program, H. O. "Fritz" Crisler, director of athletics and chairman of the department of physical education and athletics, has stated:

"Since December 7 the term 'physical fitness' has taken on new meaning for civilians and soldiers alike. Army and navy authorities have reported that many recruits have been so soft and undeveloped physically that completion of basic training has been seriously delayed by necessary physical conditioning processes. It is the aim of those charged with the administration of physical training at the University of Michigan to offset this in as great a degree as we may to put the students of this university in the best of physical condition for either civilian or military life."

"In the past the physical training program offered by the university has had as its purpose the development and maintenance of the health of our students. It has not been designed particularly to harden them. That now is changed, and for the duration of the war, at least, the latter is our purpose."

"During recent months the university has geared various phases of its total program for war, but until now these actions have primarily meant the acceleration of the intellectual program. Adoption of this new physical requirement program is recognition of the need to utilize to the fullest extent the physical training facilities to condition our students for the serv-

ice ahead of them. This obligation is indeed a vital one and the students have every right to expect it will be filled. As we look upon it, such training not only will insure more rapid advance in the armed forces for the students benefiting, but in a broader picture, will permit also the development of a more effective armed force in this nation in a shorter period of time than heretofore."

Suggested New Games

(Continued from page 26)

back in the playing field across the end line as in basketball.

7. Don'ts. 2. Touch a ground ball with the hands.

The chief attribute of the game is that it demands hard running. The army and navy want our future soldiers to be able to run, and this game gets that action. Another advantage is that it may be fairly rough with a great amount of contact that most boys like, or it may be toned down until it is suitable for girls. If it is too strenuous at first, suitable rest periods may be injected at five-minute intervals.

It is one of the best conditioners I know of; it encourages and teaches team-work; it stresses running that will aid your backs for football and your track men. The passing and throwing furnish pre-training for both football and basketball.

Peyton Jordan, track star from Southern California is the inventor of this game. He is employed at the present time in the Redlands school system where grid ball is used as a regular intramural sport.

Let's Keep Baseball Through The Summer

(Continued from page 28)

are the formative years for boys to learn the game. I have seen the big-league chances of many boys wrecked because they did not continue playing the game during the summer months after the school year closed."

Boys who have great natural throwing arms, with power in the wrists, forearm and shoulder are scarce, Fonseca pointed out. He cited the case of Bob Kennedy, young third baseman who has made good with the Chicago White Sox.

"Bob has a great arm," Fonseca said. "Yet if he had not gone from high school baseball into the American Legion Program¹—and the Legion has done a great job for baseball—he might never have developed the power which enables him to rifle the ball across the infield."

Fonseca does not believe that lack of

¹. The Athletic Coach and the American Legion Baseball Program, *Athletic Journal*, June, 1941, pp. 24, 26.



Sid Luckman of the Chicago Bears. High-speed photo taken at Spalding Research Laboratories. ©A. G. Spalding & Bros., Division of Spalding Sales Corp.

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interest on the part of the nation's youngsters has retarded the advancement of high school baseball in some sections of the county. He believes that in certain localities high school coaches have lacked interest in opening up opportunity for boys to play during the summer months. Fonseca believes that prep coaches, throughout the country, might work out programs with municipal authorities for the inauguration of park district leagues, with merchants sponsoring clubs. He cited the growth of the Iowa State High School Baseball Tournament² as proof of what can be accomplished in baseball.

"Iowa can be real proud of the job it has done in prep baseball," Fonseca said. "More than seven hundred high school teams throughout the state engage in dis-

2. Iowa Plays Baseball, *Athletic Journal*, February, 1939, page 13.

trict and sectional play which narrows the field down so that finals can be held over three days. These finals are staged at Manson, Iowa—and put on in a manner which would do credit to the largest city. This three-day finals program is really like a little world series.

"The merchants stage parades. A beauty queen is selected from among the competing schools. Coaches meet the first night, comparing teaching methods and discussing playing fundamentals as shown in the American League motion picture. Big league stars appear on the speaking program. From the start to the finish on Saturday, this show is handled in big-league style, with stars from organized baseball acting as judges in a final contest on Saturday when the leading catchers and pitchers compete for medals for their playing form. This contest—which has pitch-

ers displaying their curve and fast balls and control, and catchers vying for honors in getting throws away to second base—provides a remarkable incentive for youngsters.

"These boys know they have a chance—for one of the greatest pitchers in baseball history, Bob Feller, once played in that Iowa State Tournament.

Fonseca paid tribute to the energy and enthusiasm of Henry De Kock, formerly superintendent of schools at Manson, for his efforts in building the tournament, now run efficiently by Alec C. Evans, manager of the Iowa High School State Baseball Tournament. Fonseca also praised the work done by many other Iowa men who helped make the Manson Tourney a success.

"All that the boy wants is a chance to play—so let's give it to him."

A Program of Health and Physical Education for the Larger High Schools During Our Present Emergency

(Continued from page 8)

ball, cage ball, volleyball, etc. Again there may be rainy and cold days when we will want to be inside and give the whole hour, or any part of it, to the regular day's order.

If a gymnasium with equipment is available, certain days may be set aside for apparatus work as climbing ropes, flying rings, horse, parallel bars, horizontal bar, springboard, ladders, etc.

Certain times may be set aside for testing activities. At Central High we have the following events as self-testing activities: football carry, football pass, football punt, rope climb, push-ups, leg flexion, pull-ups, basketball throw (30 seconds), free throw (20 trials), 75-yard dash, high jump, shot put, etc. We have a set of charts showing the point values of these events.

Boys and Girls Physically Below Par

In every school there will be a few pupils below par physically. They are handicapped by under-nourishment, hernia, deformity as by accident, illness, or birth, heart condition, and many others. These persons need our help just as badly as, or more so than, those who are physically well and strong. However, such cases need the very close co-operation of a pupil's family, family physician, and the physical education instructor. In many such cases it requires the co-operation of the entire school. The making of a program schedule for a pupil with heart difficulty, is very important and requires the co-operation of teachers, advisors, etc.

Medical or Health Service

While this department is usually sepa-

rate from the department of physical education, the two departments should work hand in hand. Through the health and medical service, every student should have periodic physical examinations. The results of such examinations should be available and used by the physical education department. Through this department, many, if not all, of the physical defects may be found and through the school follow-up, co-operation of the home, etc., the defects may, in most cases, be cleared up.

In some schools, one or more physicians are employed to do the physical examinations and give directions to a health guidance program with enough trained nurses to do the follow-up and check-up work. In schools where this is not done, it may possibly be the duty, certainly the opportunity of the physical director to "sell" this program to the school administration. Sometimes this may be done by direct contact with the superintendent, sometimes through the P.T.A.

The number of examinations given the students is a matter to be worked out by the individual school, but probably such an examination given upon entrance to high school and one during the early part of the 12th grade, are sufficient, granted that the proper follow-up has been carried on.

Health Teaching

This is a much debated subject and in all but a few places, little or nothing is done about it. Boys and girls going out into life ought to know the fundamental health facts. They cannot know how to take care of a fine body unless they know something about the facts and conditions which affect that body.

At Central, we have the boys one hour each week attend what we call a "health class." This hour is taken from one of the five hours per week given to physical education. This is continued during the entire three years. A series of health units, covering those conditions which affect one's health, have been worked out. In this class the proper education preceding such testing as T. B., Schick test for diphtheria, vaccination for small pox, etc., is given.

While at present this is given to boys only, some day we hope to include the girls in such a program. A well-rounded program of physical education is just as important for girls as for boys.

Such a program as stated above, modified to meet local conditions, can and should be included in every school program. While working out this program, the high school has been uppermost in my presentation, but physical and health activities should be included throughout the entire school, from kindergarten to the 12th grade, modified, of course, to fit each grade level.

For those interested in starting such a program, I would enumerate the following:

1. Call together those persons who will be charged with forming the program.
2. Study your facilities as to a. Space; b. Equipment; c. Personnel.
3. Decide your time allotment for this work.
4. Have some person in your department or school visit some school having a set-up much as you would like.
5. Secure books on the types of work you wish to use, as, Calisthenics, Apparatus Work, Military Tactics, Health in Schools, etc.
6. Sell your program to your school board, your students and your public.

Proper Use of the Ready Reference Buying Guide

ONLY at the request of some readers was the Ready Reference Buying Guide used through the year in this publication. Coaches have written in that it is a great help to them and a time saver. On the other hand, few advertisers have advised that it is used too promiscuously and enough care is not taken in requesting what is actually needed. We must remember that the material for distribution put out by our advertisers is intended for coaches. In a few cases students of physical education schools who are not, at the present time, buyers of athletic equipment, have sent special requests to us. These have been forwarded to the advertisers. The Ready Reference Buying Guide is intended to serve both coaches and advertisers. Let us keep it a service medium.

Renewals for the Athletic Journal

THE ATHLETIC JOURNAL will not raise the subscription rates this year as many publications are doing. Paper stock, although fluctuating in price very greatly the last few months of last year has not risen in price since January and will remain at the present price until June 30 at least. As the subscriptions of half of our 11,000 subscribers expire with this issue, we will need to know by the last of June how much paper stock to order. We, therefore, urge all subscribers, who receive their renewal notices within a few days to indicate at once their intention to continue on our list next year.

Physical Educators Needed for The Coast Guard Academy

THE Coast Guard is looking for trained physical directors, educationally and technically trained to fulfill the duties of a physical education director at the different Coast Guard stations throughout the country.

The type of man we want is not necessarily a varsity coach, trained in one sport, but must be an all-round man capable of organizing, picking his assistants where needed, and seeing that the program is carried out as scheduled. He must be a good leader naturally, with the ability of getting along with mature men, for his work will be with enlisted men stationed at receiving units of the Coast Guard, Captain of the Port stations, and enlisted men directly off the sea-going vessels of the Coast Guard. The purpose of the newly created department of physical training is to get the men in good physical condition and keep them there, as well as a well-rounded program of recreational physical activity.

Communications should be addressed to John S. Merriman, Jr., Coast Guard Academy, New London, Connecticut.

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“WHO'S WHO IN THE
ARMED FORCES”

IN TWO PARTS

PART TWO

ARMY INSIGNIA

Chevrons of the Marine Corps are the same size and design as those of the Army. Insignia of rank is the same.

MARINE NON-COMMISSIONED OFFICERS



ARMY NON-COMMISSIONED OFFICERS



COMMISSIONED OFFICERS

2nd LIEUT. Norm. Command Platoon or Sub-Flight 40-55 Men	1st LIEUT. Norm. Command Platoon or Sub-Flight 40-55 Men	CAPTAIN Norm. Command Company or Battery 80-300 Men	MAJOR Norm. Command Battalion or Squadron 300-500 Men	LIEUT.-COL. Norm. Command Battalion or Squadron 300-850 Men	COLONEL Norm. Command Regiment or Group 800-3100 Men
BRIG. GENERAL Normal Command Brigade or Wing 5000-6300 Men	MAJOR GENERAL Normal Command Division 10,000-18,500 Men	LIEUT. GENERAL Normal Command Army Corps 65,000-90,000 Men	GGENERAL Normal Command Field Army 200,000-400,000 Men		

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FROM "NUMBERS"

you identified the "fight
bers. Smoothly and sw
shifting to the "battle fro
identify the fighting men



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NAVY NON-COMMISSIONED OFFICERS



APPRENTICE
SEAMAN



2nd CLASS
SEAMAN



1st CLASS
SEAMAN



3rd CLASS
PETTY OFFICER



2nd CLASS
PETTY OFFICER



1st CLASS
PETTY OFFICER



CHIEF
PETTY OFFICER

NAVY COMMISSIONED OFFICERS



WARRANT
OFFICER



CHIEF
WARRANT
OFFICER



ENSIGN
(Comparable
Army Rank
2nd Lieut.)



LIEUT.
(Comparable
Army Rank
1st Lieut.)



LIEUT.
(Comparable
Army Rank
Captain)



LT. COMM.
(Comparable
Army Rank
Major)



COMMANDER
(Comparable
Army Rank
Lt. Col.)



CAPTAIN
(Comparable
Army Rank
Colonel)



REAR ADMIRAL
(Comparable
Army Rank
Major Gen.)



VICE ADM.
(Comparable
Army Rank
Lt. Gen.)



ADMIRAL
(Comparable
Army Rank
General)

NAVY NON-COMMISSIONED OFFICERS

SPECIALTY RATINGS



BOATSWAIN'S M.



QUARTERMASTER



METALSMITH



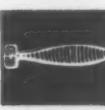
FIRE
CONTROLMAN



SIGNALMAN



GUNNER'S
MATE



TORPEDOMAN



YEOMAN



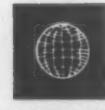
TURRET CAPT.



MACHINIST'S
MATE



MUSICIAN



ELECTRICIAN'S
MATE



RADIOMAN



PHARM. MATE



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